APPENDIX A

UNITED STATES COURT OF APPEALS
FOR THE FOURTH CIRCUIT

No. 11,150

MARVEL SPECIALTY COMPANY, INC., *Appellant,*

v.

BELL HOSIERY MILLS, INC. AND STANFORD MARLEY DISTRIBUTING CO., INC., *Appellees.*

APPEAL FROM THE UNITED STATES DISTRICT FOR THE WESTERN DISTRICT OF NORTH CAROLINA, AT ASHEVILLE. J. BRAXTON CRAVEN, JR., CIRCUIT JUDGE (BY DESIGNATION).

(Argued May 5, 1967 Decided October 17, 1967.)

Before HAYNSWORTH, Chief Judge, and BOREMAN and WINTER, Circuit Judges.

Robert F. Conrad (J. Russell Verbrycke, III, on brief) for Appellant, and Paul B. Bell (Joseph H. Heard, and Parrott, Bell, Seltzer, Parke & Heard on brief) for Appellees.

WINTER, Circuit Judge:

In *Marvel Specialty Company* v. *Bell Hosiery H[M]ills,* Inc., 330 F.2d 164 (4 Cir. 1964), we held U.S. Patent No. 2,570,637, relating to a method and machine for repairing "pulled threads" in knitted fabrics, valid; and, at the instance of the owner of the patent which manufactured a commercial machine called the "Marvel" mender, we held that the "Miracle" and "Mend-More" machines manufactured by Stanford Marley Distributing Co., Inc. ("Stanford"), and used by Bell Hoisery Mills, Inc. ("Bell"), infringed the patent. We remanded the case to the district court for an assessment of damages. The present appeal, raising three questions in regard to damages, is from that determination.

Upon remand, the district court referred the question of damages to a Special Master. The Special Master found, and his findings of fact were modified only slightly by the district judge, that, beginning in November, 1949, plaintiff placed the Marvel mender on the market and charged $6.00 per mender per month for its use. The original marketing was before the patent issued and, after the patent issued on October 9, 1951, plaintiff did not alter the $6.00 per month per machine rental.

During the month of October, 1954, Bell obtained a Marvel mender and, on December 3, 1954, Bell upon obtaining a second mender, entered into a lease agreement in which it agreed to pay a monthly rental of $6.00 per month per machine. On March 14, 1956, Bell exchanged one of its conventional menders for another mender having an unpatented iron attachment and, for this machine, Bell contracted to pay an additional monthly rental of $3.00 for each Marvel mender equipped with an iron attachment. Subsequently, the original second conventional mender was replaced with a second iron attachment mender and, until July 1959, Bell utilized plaintiff's machines, having as many as five at one time.

On July 6, 1959, Bell notified plaintiff that it intended to terminate its lease agreement with the plaintiff and returned the only remaining Marvel mender with iron attachment in its possession the next day.

Some eight months prior to July, 1959, Bell purchased from Stanford a Miracle mender and was using it at its plant in July, 1959. On July 14, 1959, one of plaintiff's representatives visited defendant's mill, saw the Miracle mender and a recently purchased Mend-More machine, and advised Bell that both of these machines infringed the patent. He left copies of the patent with Bell. Bell immediately communicated with Stanford, which advised Bell that a mistake had been made in shipping the Miracle mender to Bell. Stanford replaced the Miracle mender with

a Mend-More machine and advised Bell that the Mend-More machine did not infringe the patent, citing the opinions of two patent lawyers in support of the statement.

From November, 1958, until October, 1964, Bell had in its possession, and used, infringing machines as follows:

	From	Until
a. One (1) Miracle machine	Nov., 1958	July, 1959
b. One (1) Mend-More machine	July 8, 1959	Oct., 1964
c. One (1) Mend-More machine	Aug. 11, 1959	Oct., 1964
d. Two (2) Mend-More machines	Aug. 18, 1959	Oct., 1964
e. One (1) Mend-More machine	Nov. 22, 1960	Oct., 1964

When the decision of the district court on infringement was announced on April 22, 1963 holding that the Miracle machine infringed the patent, but that the Mend-More machine did not, plaintiff reduced the rental for its mender to $3.50 per month (without attachment) and $5.00 per month (with attachment), but, after this Court held on April 3, 1964 that the Mend-More machine, as well as the Miracle machine, infringed the patent, plaintiff restored the initial rents of $6.00 and $9.00 per month.

In July, 1959, when Bell terminated its lease of plaintiff's menders, the standard lease agreement which plaintiff offered to the hoisery industry required payment of an installation fee of $60.00, each, for the first three machines, $55.00, each, for the next two machines, and $50.00, each, for the next five machines. These fees closely approximated plaintiff's cost of manufacture and installation of menders.

Finally, it was found that, for the period 1959 to 1964, plaintiff had an annual average percent of profit of 33.6%.

The Special Master reasoned that had Bell leased five Marvel machines from the plaintiff for a period of 304 months, at a rental of $9.00 per machine per month, Bell would have paid the plaintiff the sum of $2,736.00. The Special Master concluded that plaintiff, to recover its pecu-

niary loss, should recover 33.6% of said sum—$919.30—as a result of infringement. In supporting this result, the Special Master concluded that Bell had an established royalty for the conventional Marvel machine of $6.00 per month, and for an iron attachment Marvel machine of $9.00 per month, and that $919.30 was not less than a reasonable royalty within the meaning of 35 U.S.C.A. § 284. The Special Master recommended interest at the rate of 6% from the date of judgment until paid. In regard to punitive damages, the Special Master recommended that Bell be required to pay triple damages for the time that Bell used the Miracle machine. This recommended conclusion was based upon an admission of Bell's president that he realized that the Miracle and Marvel machines were quite similar, with a number of common characteristics, and, because the president did not seek the opinion of competent patent attorneys, but continued to use the Miracle device until he was informed by plaintiff's representative that it infringed the patent. With regard to the Mend-More machine, the Special Master concluded that triple damages should not be recovered, particularly in the light of the disagreement between the district court and the Court of Appeals on the issue of whether there was infringement, from which it could hardly be said that Bell deliberately and intentionally infringed the patent.

The district judge reduced the Special Master's conclusions with respect to damages. The district judge held that damages could not be computed on the basis of $9.00 per month per Miracle machine "* * * for to do so will accord to plaintiff the benefit of a patent on the iron attachment—which is not even alleged to exist." The district judge, therefore, computed plaintiff's damages on the basis of 304 machines at a rental of $6.00 per machine per month, to which the profit factor of 33.6% was applied, and damages trebled for the time that Bell used the Miracle machine.

Raised on appeal are questions of the basic measure of damages, limitation of discovery prior to the hearing on damages, and the allowance of punitive damages. We vacate the judgment entered, and direct the entry of a new judgment in accordance with the views expressed herein.

I

Before the district judge and in this Court, plaintiff contends that it is entitled to damages not on the basis of the net rental per month but on the basis of the gross rental per month. The district judge rejected this contention because he was of the view that *Aro Mfg. Co.* v. *Convertible Top Co.*, 377 U.S. 476 (1964), required a contrary result. In this we think the district judge erred.

Damages for infringement of a valid patent are presently fixed by 35 U.S.C.A. § 284[1] which, in pertinent part, directs the allowance of "* * * damages adequate to compensate for infringement, but in no event less than a reasonable royalty for the use made of the invention by the infringer, together with interest and costs as fixed by the court."[2]

3 Walker, *Patents* (1937 Ed.) §§ 821-823, pp. 2156-2173, summarizes the decided cases and collects the pertinent authorities on the subject of assessment of damages where there has been patent infringement. From the premise that the proper measure of recovery is the difference between the plaintiff's pecuniary condition after the infringement and

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[1] § 284 is a recodification of the 1946 basic amendment (35 U.S.C.A. § 70) to the 1870 patent code, Act of July 8, 1870, 16 Stat. 206-207.

[2] As the exhaustive and persuasive opinion in *Georgia-Pacific Corp.* v. *United States Plywood Corp.*, 243 F.S. 500, 515, *et seq.* (S.D. N.Y. 1965), demonstrates, the predecessor of § 284 abolished, in the usual case, as an element of a patentee's damages, the profits realized by an infringer. See also, *Aro Mfg. Co.* v. *Convertible Top Co.*, 377 U.S. 476, 505-506 (1964).

what the condition would have been if that infringement had not occurred, they state that, ordinarily, the rule must be applied in one of two situations—the first, where the pattentee has exercised his patent by granting licenses to others to do the things which the infringer did without a license, and the other, where the patentee has exercised his patent by keeping his patent right a close monopoly and granting licenses to no one. In the former, where the patentee has established a fixed royalty, the difference between pecuniary condition after infringement and what that condition would have been if infringement had not occurred, is the patentee's not having received the royalty which a license to the infringer would have brought him. If no fixed royalty has been established, the courts will undertake an inquiry into what is a reasonable royalty. In the latter, because there is no established royalty, the difference consists of the money he would have realized from a monopoly if there had been no infringement as, for example, the sales he would have made and the profits he would have realized, or what would have been a reasonable royalty had the patentee undertaken to grant licenses. See also, *Georgia-Pacific Corp.* v. *United States Plywood Corp.*, *supra,* at p. 515.

Indeed, where there is an established royalty, the Supreme Court, as early as 1886, held that the established royalty is the "best" measure of damages. *Clark* v. *Wooster,* 119 U.S. 322, 326 (1886). In this Circuit, before the 1942 amendment to 35 U.S.C.A. § 284, an established royalty was adopted as the measure of damages where proof of the infringer's profits was uncertain or unavailable. *Swan Carburetor Co.* v. *Nash Motors Co.,* 133 F.2d 562 (4 Cir. 1943).

It is clear, also, that it is part of the established rule where a patentee has granted licenses and has an established royalty, the *gross* royalty *with interest from the*

date on which it was payable,[3] from time to time, is the proper measure of the patentee's recovery. *Clark* v. *Wooster, supra; Seymour* v. *McCormick,* 16 How. 480, 57 U.S. 480, 489 (1854); *United States National Bank* v. *Fabri-Valve Company,* 235 F.2d 565 (9 Cir. 1956); *Swan Carburetor Co.* v. *Nash Motors Co., supra; Newport News Shipbuilding & Dry Dock Co.* v. *Isherwood,* 5 F.2d 924 (4 Cir. 1925).

Since the purpose of the enactment of 35 U.S.C.A. § 284 was only to eliminate an infringer's profits as an element of a patentee's recovery, the rules allowing a patentee to recover his *gross* established royalty with interest from the date of payment should have been made still apply. *Aro Mfg. Co.* v. *Convertible Top Co., supra,* does not require a contrary conclusion.

The *Aro* case concerned a suit by a patentee against a contributory infringer where the direct infringer had made settlement for its infringement and had been released from further liability. Incidentally, the portion of the opinion which discussed damages had the concurrence of only four justices (one of the majority was of the view that the damage question was not ripe for decision); but, stemming from the view that the enactment of 35 U.S.C.A. § 284 abolished an infringer's profits as an element of the patentee's recovery in the usual case, these four were of the opinion that "* * * after a patentee has collected from or on behalf of a direct infringer damages sufficient to put him in the position he would have occupied had there been no infringement, he cannot thereafter collect actual damages from a person liable only for contributing to the same infringement. The principle is but an application of the rule that full satisfaction received from one tort-feasor prevents further recovery against another." *Id.,* p. 512.

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[3] The legislative history of the 1946 amendment, as recited in the *Aro* case, *supra,* shows that the sponsors of the bill contemplated the allowance of interest *from the time of infringement.*

It is true that in *Aro* there is contained the language[4] which led the district judge to conclude that plaintiff could recover only that portion of its established royalty which constituted profit to it. But a reading of the full opinion satisfies us that this language, when viewed in context, including the facts under which the case arose, was employed to make crystal-clear that profits of the infringer were no longer an element of the patentee's damages for infringement and not to alter long-established rules which permit a patentee to recover a gross established royalty as the "best" measure of actual damages. Accord: *Georgia-Pacific Corp.* v. *United States Plywood Corp., supra* at p. 515.

Finally, we must consider what was plaintiff's established royalty for its patented device. In the light of the findings of the Special Master concerning the $60.00 installation fee, we agree that it was no part of the established royalty and that plaintiff may not recover therefor. We agree, also, that the established royalty was $6.00 per machine per month and not $9.00. Had plaintiff elected to market its patented device only with the unpatented attachment, there would be warrant for treating $9.00 per machine per month as the established royalty. *Electric Pipe Line* v. *Fluid Systems,* 250 F.2d 697 (2 Cir. 1957). But the fact is that it did not. For a manufacturer of knitted goods, plaintiff marketed two machines, one manufactured strictly in accordance with the teachings of the patent, and the other, an "improved" model, incorporating an additional unpatented device. We agree with the district judge that the portion of the $9.00 monthly charge attributable to the unpatented attachment is not an element of plaintiff's permissible recovery.

We hold, therefore, that plaintiff should have recovered as damages $6.00 per machine per month for the period of

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[4] "• • • the statute allows the award of a reasonable royalty, or of any other recovery, only if such amount constitutes 'damages' for the infringement." *Id.*, p. 505.

infringement, trebled in part as hereafter discussed, with interest from the date that royalty payments should have been made.[5] We direct the entry of judgment computed in this manner.

II

Prior to the trial of the damage question, plaintiff sought to take the deposition of Bell's president for purposes of discovery. Bell moved, *inter alia,* to limit the scope of inquiry so as to exclude discovery of profits gained by Bell or pecuniary advantage to Bell from use of the infringing machines. The district judge granted this portion of Bell's motion.

In this action there was no error. In the usual case an infringer's profits are no longer an element of a patentee's damages as we have previously shown. Nor could the information sought have relevance to a reasonable royalty. There was in this case an established royalty, and inquiry should not have extended beyond it.

III

We think that the district judge was correct in trebling plaintiff's damages for the period that Bell used the Miracle mender. The allowance of treble damages is largely discretionary. For the period of time that treble damages were allowed and for the period that they were denied, we find, in this record, no abuse of discretion. Treble damages for the period of time that Bell used the Miracle mender should be allowed in the recomputation of the judgment we have directed.

Vacated and remanded.

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[5] The typical "Lease Agreement" in evidence provides for semi-annual payment of "rentals," payable in advance in July and January of each year.

APPENDIX B

IN THE UNITED STATES DISTRICT COURT FOR THE WESTERN DISTRICT OF NORTH CAROLINA
ASHEVILLE DIVISION

Civil No. 1863

MARVEL SPECIALTY COMPANY, INC., *Plaintiff,*

v.

BELL HOSIERY MILLS, INC. and STANFORD MARLEY DISTRIBUTING COMPANY, INC., *Defendants.*

Judgment

On the basis of the Master's Report, as modified and adopted by the Court, IT IS ADJUDGED AND DECREED that plaintiff have and recover of defendants the sum of $661.26, together with interest at the rate of six percent per annum from and after date of this judgment, and the costs of the accounting, exclusive of attorney fees.

This 31st day of October, 1966.

S/ .....
J. Braxton Craven, Jr.
*United States Circuit Judge**

A True Copy

TESTE:

THOS. E. RHODES, *Clerk*

By: VERNE BARTLETT, *Deputy Clerk*

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* Sworn in as United States Circuit Judge for the Fourth Circuit on July 5, 1966, and designated to sit as a United States District Judge, Western District of North Carolina, to complete matters pending at time of appointment.

Filed Nov. 2, 1966

Order Adopting and Modifying Report of the Special Master

CRAVEN, Circuit Judge:

The undersigned circuit judge, sitting by designation as a district judge in the Western District of North Carolina, pursuant to Rule 53 of the Federal Rules of Civil Procedure, hereby adopts and modifies the Report of the Special Master as follows:

1. Counsel for the parties agree that there is inadvertent error in the finding of facts contained in paragraph 15 of the Master's Report. This paragraph is amended to the effect that the plaintiff entered into settlement negotiations with other infringers prior to the initiation of this action on August 13, 1959, and that prior thereto the plaintiff settled with at least two other infringers by permitting them to continue to use the accused mending devices at a monthly rental of $6.00 per month per machine; the findings with respect to the Kellwood Company, Inc. correctly recite that the negotiations and settlement occurred *after* the court of appeals decision that the Mend-More device also infringed the apparatus claims of the Brown patent.

None of the other findings of fact made by the Special Master appear to be clearly erroneous, and, except as hereinabove indicated, pursuant to the mandate of Rule 53(e)(2), the findings of fact of the Special Master are accepted and adopted.

2. Defendants object to the Master's computation of damages contained in conclusions of law No 2 on the ground that the Master used a rental of $9.00 a month in making the computation, although he had previously noted in his findings of fact that the standard rental

for conventional machines (without the iron attachment) was $6.00 per month. Defendants urge that damages cannot be computed on the $9.00 basis, for to do so will accord to plaintiff the benefit of a patent on the iron attachment—which is not even alleged to exist. This objection is well taken. Conclusion of law No. 2 is accordingly rejected, and in lieu thereof, the court adopts the following:

> "That in the instant case, had the defendant leased five Marvel machines from the plaintiff for a period of 304 machine months at a rental of $6.00 per machine per month, the defendant would have paid to the plaintiff a total of $1,824.00. That said sum of $1,824.00 would have represented gross income to the plaintiff and that to award the plaintiff his pecuniary loss it is necessary to determine the plaintiff's lost profits or its net income by applying the plaintiff's average percent of profit for the period of infringement which was 33.6 percent, thereby producing a pecuniary loss to the plaintiff of $612.86 as a result of the infringement."

Paragraph 3 of the conclusions of law is amended to substitute in lieu of the sum of $919.30 the sum of $612.88. Paragraph 4 of the conclusions of law is amended to make the same substitution.

3. Counsel for plaintiff urges that the Master erred as a matter of law in computing the damages not on the basis of the gross rental per month but on the basis of the net rental. It is urged persuasively that such an approach results in the anomaly of an infringer being allowed to pay $3.00 per month for the use of a patent for which authorized users paid $6.00 plus other consideration.

Plaintiff's contention may not be lightly brushed aside, but, in my judgment, merely illustrates the difficulty of

applying the theory of *Aro,* 84 S.Ct. 1526, to the facts of a given case: "(T)he statute allows the award of a reasonable royalty, or of any other recovery, only if such amount constitutes 'damages for the infringement.'" I believe the "net" approach is the correct one and required by *Aro.*

All of the other objections of both plaintiff and defendants to the Master's Report have been considered and are overruled and rejected, and the Report is adopted in its entirety except with respect to the charges hereinabove indicated.

An appropriate final judgment will be entered in conformity with the Master's Report as modified.

This 31st day of October, 1966.

S/ .....
J. Braxton Craven, Jr.
*United States Circuit Judge**

A True Copy

TESTE:

THOS. E. RHODES, *Clerk*

By: VERNE BARTLETT, *Deputy Clerk*

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* Sworn in as United States Circuit Judge on July 5, 1966, and designated to sit as a United States District Judge in the Western District of North Carolina to complete matters pending at time of appointment.

APPENDIX C

Master's Report

This cause came on to be heard and was heard by the undersigned Special Master, pursuant to an Order dated November 5, 1964, signed by the Honorable J. B. Craven, Jr., Chief Judge of the United States District Court for the Western District of North Carolina.

This action was commenced in the United States District Court for the Western District of North Carolina for patent infringement. The District Court found that the patent was valid and had been infringed by one accused device ("Miracle device") but not infringed by the other accused device, ("Mend-More device"). *Marvel Specialty Company* v. *Bell Hosiery Mills, Inc.*, 216 F. Supp. 824 (W.D. N.C. 1963). On appeal, the Court of Appeals affirmed in part and reversed in part, holding that the Mend-More device was the equivalent of the Brown patent and infringed. *Marvel Specialty Company* v. *Bell Hosiery Mills, Inc.*, 330 F. 2d 164 (4th Cir. 1964).

As previously stated, the matter was referred to a Special Master, pursuant to Rule 53(b), for determination of damages. By Supplemental Memorandum of Decision and Order with Respect to Damages and Other Matters, dated October 1, 1965, Judge Craven resolved certain conflicting contentions as to the scope of the reference and issued further instructions to the Master.

Hearings were held by the Special Master in Charlotte, North Carolina, on June 25, 1965, and on March 30, 1966, at which times the testimony of three witnesses, namely, Robert A. Lavender, Clifton Gregory and George Bell, was taken and documentary evidence was introduced. The plaintiff offered certain documents, designated as Plaintiff's Accounting Exhibits 1-4, 4A-B, 5-13, 14-A-G, and 15, and the defendant Bell introduced other documents, des-

ignated as Defendant's Accounting Exhibits 1-6. All of these exhibits were received in evidence and were considered by the Special Master in arriving at a decision, together with the aforementioned testimony and the answers to interrogatories submitted by the parties.

After the second hearing, the attorneys for the parties submitted briefs and proposed findings of fact to the Master, and these were also utilized by the Master.

Briefly stated, the plaintiff contends that it is entitled to have and recover of the defendant Bell "damages adequate to compensate for the infringement but in no event less than a reasonable royalty." 35 U.S.C.A., Section 284. It asserts that the District Court's opinion recognizes that as a result of the Brown patent, the cost of mending was reduced from 70 cents to 25 cents per dozen hose. Its expert witness testified that in his opinion the plaintiff should recover as a reasonable royalty 40 cents per dozen pairs of hosiery mended by the defendant's use of the infringing devices, but plaintiff's counsel asserted a willingness to limit the claim to 11¼ cents per dozen pairs of hosiery mended by the infringing machines, since certain other claims against infringers had been settled on this basis.

On the other hand, the defendant contends that the plaintiff's recovery is limited by the applicable decisions and by Judge Craven's Supplemental Order to "damages." It is the defendant's position that the plaintiff can recover only for its pecuniary loss, without regard to whether the infringer gained or lost by his unlawful acts. The defendant asserts that the plaintiff's "pecuniary loss", for this purpose "means the difference between its pecuniary condition after the infringement, and what its condition would have been if the infringement had not occurred.

Based upon the evidence offered, the Special Master makes the following:

FINDINGS OF FACT

1. That the plaintiff, Marvel Specialty Company, Inc., a manufacturer and lessor of hosiery machines, was the owner of Brown patent No. 2,570,637, and that application for this patent was filed in October, 1949.

2. That in November of 1949, the plaintiff placed a hosiery-mending device known as the Marvel Mender on the market; that the plaintiff charged $6.00 per month per machine for this mender; that this mender received an excellent reception in the hosiery industry; and that within one year thereafter more than 90% of the existing hosiery mills were leasing this machine from the plaintiff.

3. That the Marvel mender was a simply constructed machine which could be easily copied; that the plaintiff desired to get a minimum rental that would discourage infringement or competition; and that the $6.00 rent hereinabove referred to was originally established to discourage copying of the unpatented device.

4. That on October 9, 1951, Brown Patent No. 2,570,637, which covered the Marvel mender was issued to the plaintiff, but that the plaintiff did not increase the $6.00 per month per machine rental after the patent was issued.

5. That during the month of October, 1954, one conventional Marvel mender was transferred to the defendant's plant from Mars Hosiery Mill, for whom the defendant was knitting exclusively; that on December 3, 1954, the defendant entered into a lease agreement, in which the defendant agreed to pay a monthly rental of $6.00 per month per machine, with the plaintiff and an additional conventional mender was installed in the defendant's plant; that on March 14, 1956, the defendant exchanged one of the conventional menders for an iron attachment machine and executed a Supplement to the Lease Agreement, in which the defendant contracted to pay an additional monthly rental of $3.00 for each Marvel machine equipped with an

iron attachment; that the defendant subsequently replaced the remaining conventional mender with a second iron attachment machine; that thereafter the defendant and Mars Hosiery transferred plaintiff's machines back and forth between the two mills, utilizing as many as five (5) menders at both locations; and that the defendant continued to use one or more of the plaintiff's machines until July of 1959.

6. That beginning in March, 1956, and continuing until July, 1959, the defendant agreed to pay and did in fact pay to the plaintiff $9.00 per month for each iron attachment mender in the defendant's possession; that after September of 1957, the defendant used only machines with iron attachments; and that during said period, and until 1963, the plaintiff leased these iron attachment menders to the hosiery industry at a standard rental of $9.00 per month per machine.

7. That on July 6, 1959, the defendant notified the plaintiff by letter that it intended to terminate its lease agreement with the plaintiff, and that it was returning to the plaintiff the one remaining Marvel mender with iron attachment in its possession; and that on or about July 7, 1959, the defendant returned said Marvel mender to the plaintiff.

8. That some time prior to July, 1959, Stanford Marley Distributing Company, Inc., another manufacturer of hosiery mending machines, began to produce and sell a mending machine for pull threads known as the "Miracle" mender; that this machine closely resembled the Marvel mender covered by the Brown patent; and that the defendant had, some eight months prior to the termination of said lease agreement with the plaintiff, purchased a Miracle mender from Stanford-Marley, and was using it at its plant.

9. That on or about July 14, 1959, a representative of the plaintiff visited the defendant's mill, and saw the afore-

mentioned Miracle mender and a Mend-More machine, an improved mender which the defendant had just purchased from Stanford-Marley; that the plaintiff's representative advised the defendant that both of these machines infringed the Brown patent; and that he left copies of the Brown patent with the defendant.

10. That after being advised that the Miracle and Mend-More machines infringed, the defendant contacted Stanford-Marley about the matter; that the defendant was informed that a mistake had been made in shipping the Miracle machine to Bell Hosiery, and that Stanford-Marley would replace it with a Mend-More machine, which was subsequently done; that by letter dated August 11, 1959, Stanford-Marley advised the defendant that the Mend-More machine did not infringe the Brown patent; that Stanford-Marley cited the opinions of two patent lawyers in support of this statement; and that the defendant was assured by Stanford-Marley that Stanford-Marley would assume the responsibility for all patent litigation, should such litigation arise from Bell's use of the Mend-More machines.

11. That the defendant had in its possession and used infringing machines, as follows:

	From	Until
a. One (1) Miracle machine	Nov., 1958	July, 1959
b. One (1) Mend-More machine	July 8, 1959	Oct., 1964
c. One (1) Mend-More machine	Aug. 11, 1959	Oct., 1964
d. Two (2) Mend-More machines	Aug. 18, 1959	Oct., 1964
e. One (1) Mend-More machine	Nov. 22, 1960	Oct., 1964;

that the defendant used one (1) Miracle machine for eight (8) months, making a total of eight (8) Miracle machine months; that the defendant used five (5) Mend-More machines for a total of two hundred and ninety-six (296) months, making a total of two hundred and ninety-six (296) Mend-More machine months; and that although the defendant's records purport to show only six (6) months of

Miracle machine use, and two hundred and forty-three (243) months of Mend-More machine use, the Master finds as a fact that the defendant used the Miracle machine for eight (8) months and that all of the Mend-More machines remained in the defendant's possession and were used or were available for use by it until October, 1964, when the defendant discontinued using all infringing machines.

12. That on or about August 13, 1959, the plaintiff instituted the instant action against the defendant, asserting that the defendant was using mending machines which infringed the plaintiff's Brown patent; that the trial court held that the patent was valid and that it had been infringed by the Miracle device, but not by the Mend-More device; and that on appeal the Circuit Court subsequently ruled that the Mend-More machine also infringed the Brown patent.

13. That when the District Court announced its decision that the Miracle device infringed the plaintiff's patent, but that the Mend-More machine did not, the plaintiff immediately advised its customers of its intention to reduce the standard rental for their conventional machines from six dollars ($6.00) per month to three dollars and fifty cents ($3.50) per month, and the standard rental for their iron attachment machines from nine dollars ($9.00) to five dollars ($5.00); that by letter dated May 1, 1963, the plaintiff offered its machines for sale to the hosiery trade; but that this offer of sale was withdrawn fifteen (15) days later when it was decided to appeal the decision of the District Court to the Court of Appeals, and before any machines were sold.

14. That after the Court of Appeals held that the Mend-More machine also infringed, the plaintiff resumed the old rental rates, to wit, $6.00 for the conventional machine and $9.00 for the iron attachment machine, effective July 1, 1964; and that these standard rental rates have remained

in full force and effect since the Brown patent was judicially determined to be valid.

15. That after the Court of Appeals held that the Mend-More device also infringed, the plaintiff entered into settlement negotiations with other infringers; that the plaintiff settled with at least two infringers by allowing them to continue to use the accused mending devices at a rental of $6.00 and $9.00 per month per machine; that the plaintiff and Kellwood Company, Inc., a subsidiary of Sears Roebuck, did negotiate a settlement based upon a payment of 11¼ cents per dozen pairs of hosiery mended by the infringing machines; that the evidence of this settlement does not disclose either the number of yards made per dozen or the amount of money paid in settlement; and that even in that one instance, the plaintiff offered to license Kellwood to use the infringing machines on the basis of a rental of $6.00 per month per machine after the settlement for damages for past infringement.

16. That at the time the defendant terminated its lease with the plaintiff, the standard lease agreement offered to the hosiery industry by the plaintiff provided for the following installation fees:

First 3 machines	$60.00 each;
Next 2 machines	$55.00 each;
Next 5 machines	$50.00 each;

that at that time, it would have cost the defendant approximately $290.00 to have five (5) Marvel machines installed at its plant, and it would have cost the plaintiff approximately $290.00 to $330.00 to manufacture and install five (5) Marvel machines for the defendant; and that the costs of manufacturing and installing five (5) machines would have equalled or exceeded the installation fees which the plaintiff would have received.

17. That for the period from 1959 to 1964, the plaintiff had an annual average per cent of profit of thirty-three and six-tenths (33.6) per cent (%).

Based upon the foregoing Findings of Fact, the Special Master makes the following:

CONCLUSIONS OF LAW

1. That the plaintiff, Marvel Specialty Company, Inc., is entitled to have and recover of the defendant, Bell Hosiery Mills, Inc., damages adequate to compensate it for the infringement, but in no event less than a reasonable royalty for the use made of the invention by the infringer. 35 U.S.C. 284. That the plaintiff is entitled to recover compensation for the pecuniary loss it suffered from the infringement, without regard to the question whether the defendant has gained or lost by its unlawful acts. That the damages to which the plaintiff is entitled should constitute the difference between its pecuniary condition after the infringement and what its condition would have been if the infringement had not occurred. *Aro Mfg, Co.* v. *Convertible Top Replacement Co.*, 84 S. Ct. 1526, (1964).

2. That, in the instant case, had the defendant leased five (5) Marvel machines from the plaintiff for a period of three hundred and four (304) machine months at a rental of nine dollars ($9.00) per machine per month, the defendant would have paid to the plaintiff a total of $2,736.00. That said sum of $2,736.00 would have represented gross income to the plaintiff, and that to award the plaintiff its pecuniary loss it is necessary to determine the plaintiff's lost profits or its net income by applying the plaintiff's average per cent of profit for the period of infringement, which was 33.6%, thereby producing a pecuniary loss to the plaintiff of $919.30 as a result of the infringement.

3. That the plaintiff, Marvel Specialty Company is entitled to have and recover of the defendant Bell Hosiery

Mills, Inc., judgment in the sum of $919.30, as compensation for its pecuniary loss by virtue of the infringement.

4. That the sum of $919.30 is not less than a reasonable royalty, within the meaning of 35 U.S.C. 284, for that "a reasonable royalty" is an amount which a person, desiring to use a patented article as a business proposition would be willing to pay as a royalty and yet be able to use the patented article at a reasonable profit. The primary inquiry is . . . what the parties would have agreed upon, if both were reasonably trying to reach an agreement. The best measure of the value of what was taken by the infringement is the proof of an established royalty for the license. In the instant case, all of the evidence, including the evidence of the Kellwood settlement insofar as the future use of the device was concerned, clearly indicates that the plaintiff, both before and after its Brown patent was issued and even after the Court of Appeals declared the infringement, offered to lease conventional machines for $6.00 per month per machine and iron attachment machines for $9.00 per month per machine and that persons desiring to use these machines as business propositions have been willing to pay and have in fact paid these established rentals. This practice was never altered except for the one year period between the time when the District Court declared that the "Mend-More" device did not infringe the patent and the time when the Court of Appeals reversed that decision. These royalties were paid prior to the infringement complained of; were paid by a sufficient number of persons to indicate a general acquiescence in their reasonableness by those who had occasion to use the invention; and were uniform at the places where the licenses were issued. *Aero Mfg. Co.* v. *Convertible Top Replacement Co., supra; Faulkner* v. *Gibbs,* 199 F. 2d 635 (1952); *Saulnier* v. *United States,* 314 F. 2d 950 (1963); *Elrick Rim Company* v. *Cheek,* 195 F. Supp. 496 (1961).

5. That the plaintiff is entitled to have and recover of the defendant interest at the rate of six per cent (6%)

per annum from the date of the judgment until paid. *Excel Auto Radiator Co.* v. *The Bishop & Babcock Mfg. Co.*, 123 F. Supp. 315; 212 F. 2d 586.

6. That the costs of the accounting should be paid by the defendant in their entirety, but that each party should pay its own attorney's fees. *Elrick Rim Company* v. *Cheek, supra.*

PUNITIVE DAMAGES

In addition to the foregoing findings of fact, the Special Master also finds the following facts with regard to the issue of punitive damages:

(a) Bell Hosiery Mill, Inc. acquired and used the Miracle device while its lease agreement with the plaintiff was still in full force and effect.

(b) By the terms of said agreement, the defendant Bell Hosiery Mill, Inc., covenanted and agreed as follows:

> "The lessee (Bell) on his part acknowledges and will respect during the term of this agreement and renewal thereof, the full validity of the United States Patent 2,570,637, and agrees that it will not infringe that patent."

(c) The President of Bell Hosiery Mill, Inc., knew and admits that the Miracle device and the plaintiff's patented device were quite similar, with a number of common characteristics;

(d) The President of Bell Hosiery Mill, Inc., did not question whether the Miracle device infringed the plaintiff's patent, and did not seek the opinion of competent patent attorneys, but on the contrary, he continued to use the Miracle device until he was informed by a representative of the plaintiff that it infringed the Brown patent.

Based upon the foregoing findings of fact, the Special Master recommends that the damages be trebled insofar as the infringing use of the Miracle device is concerned.

As for the use of the "Mend-More" device, the Special Master is of the opinion that the facts found do not justify and would not support an award of punitive damages for that infringement, especially in light of the disagreement between the District Court and the Court of Appeals on the issue of whether there was an infringement. Certainly, infringement cannot be said to have been obvious to the defendant if it was not to the District Court. Weighing the conduct of the defendant in light of all of the facts, it is the opinion of the Master that the defendant did not deliberately and intentionally infringe, and it is not recommended that punitive damages be awarded for the infringing use of the Mend-More device. The plaintiff had the burden of proof on the issue of punitive damages as to the Mend-More device, and the Master concludes that it has failed to carry the burden. *Holley* v. *Outboard Marine Corporation,* 241 F. Supp. 657 (1964); *Triumph Hosiery Mills, Inc.* v. *Alamance Industries, Inc.,* 299 F. 2d 793 (1962), (191 F. Supp. 652); *Upjohn Company* v. *Italian Drugs Importing Co.,* 190 F. Supp. 361 (1961); *Armstrong* v. *Emerson Radio and Phonograph Corp.,* 179 F. Supp. 95 (1959).

SUMMARY

For the reasons hereinabove set forth, the Special Master recommends that this report be affirmed and that the plaintiff be awarded judgment against the defendant, Bell Hosiery Mill, Inc. in the sum of NINE HUNDRED SIXTY-SEVEN DOLLARS AND SIXTY-EIGHT CENTS ($967.68), together with interest at the rate of six per cent (6%) per annum from and after date of the judgment, and the costs of this accounting, exclusive of attorney fees.

This the 7th day of September, 1966.

Respectfully submitted,

SAM J. ERVIN, III
Sam J. Ervin, III
Special Master

APPENDIX D

Filed: Dec 8 1965

UNITED STATES COURT OF APPEALS
FOR THE FOURTH CIRCUIT

Misc. No. 214

MARVEL SPECIALTY COMPANY, INC.,
v.
BELL HOISERY MILLS, INC., and STANFORD MARLEY DISTRIBUTING CO., INC.

On Application for Leave to Take an Interlocutory Appeal Under Title 28, U.S.C., Section 1292(b).

On consideration of the application of Marvel Specialty Company, Inc., for leave, in accordance with Title 28, Section 1292(b), United States Code, to take an appeal from the order entered October 25, 1965, by the United States District Court for the Western District of North Carolina, at Asheville, in Civil Action No. 1863, and the answer of Bell Hosiery Mills, Inc., to the application,

It is ordered that the application for permission to take an interlocutory appeal be, and the same is hereby, denied.

CHARLES HAYNSWORTH, JR.
Chief Judge, Fourth Circuit.

SIMON E. SOBELOFF
United States Circuit Judge.

HERBERT S. BOREMAN
United States Circuit Judge.

A true copy,
TESTE:

MAURICE S. DEAN, Clerk
U. S. Court of Appeals for the Fourth Circuit.

By MARGARET L. DAVIS,
Deputy Clerk.

APPENDIX E

Filed Oct 25 1965

IN THE UNITED STATES DISTRICT COURT FOR THE
WESTERN DISTRICT OF NORTH CAROLINA
ASHEVILLE DIVISION
CIVIL NO. 1863

Supplemental Order

On motion of plaintiff, the court supplements its Memorandum of Decision and Order with Respect to Damages and Other Matters filed on October 5, 1965, as follows:

> This Order involves a controlling question of law as to which there is substantial ground for difference of opinion. In my opinion an immediate appeal from the Order may materially advance the ultimate determination of the litigation, and I so certify pursuant to 28 U.S.C.A. Section 1292(b).

This 22d day of October, 1965.

/s/ J. B. CRAVEN, JR.
J. Braxton Craven, Jr.
Chief Judge, United States
District Court

A true copy
TESTE:
THOS. E. RHODES, Clerk
By: VERNA BARTTELL
Deputy Clerk

APPENDIX F

Filed Oct 5 1965

Supplemental Memorandum of Decision and Order With Respect to Damages and Other Matters

This case was referred to a Special Master by order entered November 5, 1964, with direction to the Master to determine damages authorized by 35 U.S.C.A. Section 284, as interpreted in *Aero Manufacturing Co.* v. *Convertible Top Replacement Co.*, 12 L.Ed. 2d 457, 84 S.Ct. 1526 (1964).

Subsequently, two motions have been filed and heard by the court. Honorable Paul Bell, attorney at law, Charlotte, North Carolina, has moved the court to be permitted to withdraw as counsel for defendant Stanford Marley Distributing Company, Inc. At a hearing on the 31st of August, 1965, the plaintiff, Marvel, opposed Mr. Bell's motion, but at a subsequent hearing in Statesville on September 27, 1965, Marvel withdrew its opposition. It appears from statements of counsel that Stanford Marley Distributing Company is now insolvent or is verging upon insolvency. Apparently Marvel will discontinue its prosecution of the accounting against Stanford Marley Distributing Company for the simple reason that to do so will mean an expenditure of its own money in order to secure an empty victory.

Marvel now turns its attention primarily to defendant Bell Hosiery Mills, Inc., a relatively small company, but solvent. Marvel has proposed to take the deposition of the president of Bell Hosiery Mills and other persons to be identified by the president who have knowledge concerning the rates of production of menders who are or have been employed by the defendant Bell Hosiery Mills, Inc. Bell has moved the court under date of September 3, 1965, for a protective order to prevent the taking of the depositions, or, in the alternative, to limit the depositions

to inquiry tending to show loss or damage which plaintiff has suffered by reason of infringement rather than pertaining to profits gained or pecuniary advantage which Bell Hosiery may have received from use of the infringing machines.

Bell Hosiery Mills, Inc. is one of hundreds of hosiery companies, large and small, which used mending machines of the type incorporating the apparatus held to be the subject of a valid patent in the instant case. *Marvel Specialty Company* v. *Bell Hosiery Mills, Inc.*, 216 F. Supp. 824 (W.D.N.C. 1963), aff'd in part and rev'd in part, 330 F.2d 164 (4th Cir. 1964). Counsel apparently agree that the Bell company used six machines supplied by Stanford Marley Distributing Company over various periods of time, amounting to approximately 243 machine months; that if the Bell company had leased the machines from Marvel the prevailing cost of leasing such a machine would have been $6.00 a month plus a flat sum of $60.00 per machine. The total cost to Bell of leasing these machines from Marvel would have been well under $2,000.00. Obviously the total amount that Bell might have paid Marvel would not be all profit to the latter. Bell contends that only approximately one-third of the total of less than $2,000.00 would constitute profit lost by Marvel, i.e., damages. Marvel contends that the $6.00 monthly charge for leasing a mending machine spread over the production of a competent mender using the machine amounts to only about six-tenths of one cent per dozen, whereas the use of the machine would result in savings to Bell of about forty-five cents a dozen. Thus, Marvel claims that if it were entitled to recover Bell's savings as a result of infringement of the patent that the recovery would be perhaps eighty times the cost that would have been incurred by Bell in leasing six machines from plaintiff.

But Marvel concedes that it is *not* entitled to recover the savings or profits gained by Bell as an infringer. Marvel concedes this door has been shut by *Aero Manu-*

facturing Co. v. *Convertible Top Replacement Co., supra.* But, ingeniously, Marvel insists that there is a back door sufficiently ajar to permit entry. The back door is entitled "reasonable royalty", which the statute places as a floor under the recovery of damages. Marvel points to the statute as sufficient authority for it to pursue in the accounting a determination of what is a reasonable royalty. Then Marvel insists that such a determination cannot be made, on the facts of this case, without freedom of inquiry into the savings and profits gained by the infringer. Thus, it is urged, the Master not only can, but must undertake the forbidden inquiry.

I do not think so. *Aero, supra,* is crystal clear: that under the present statute *only damages* are recoverable. Judge Herlands said in *Georgia Pacific Corp.* v. *U. S. Plywood Corp.*, 146 U.S. Patent Quarterly at 247: "(I)t is clear that Congress was dissatisfied with the existing law because the determination of the infringer's profits seemed necessary in virtually every case in which the patent owner sought a monetary award; and this resulted in long and costly hearings before masters and insoluable problems of apportionment . . . Congress interpreted the 1922 Act as requiring an accounting for profits even in those cases in which the patent owner merely sought a reasonable royalty. Thus in enacting the 1946 amendment, Congress intended at the very least to enable a patentee who sought a recovery based only on a reasonable royalty to avoid the time and money-consuming procedure of an accounting for profits. In other words, Congress eliminated any mandatory requirement that there be an accounting for profits."

Nor did Congress intend, in my opinion, to give to the patentee the power to require such an accounting because it might be relevant to determination of reasonable royalty. There are other ways to determine reasonable royalty, if, indeed, it becomes necessary to do so. This is not to say that the infringer's profits are *evidentially* irrelevant

to inquiry into reasonable royalty, but that for reasons of policy and to implement congressional intent, no such inquiry ought to be permitted in the ordinary case, and certainly not where there is another less burdensome method of determining what is a reasonable royalty.

Judge Herlands concludes, in *Georgia Pacific Corp.* v. *U. S. Plywood Corp., supra* at 253, that the patentee cannot inquire into the infringer's profits as an evidentiary factor in evaluating reasonable royalty unless he established as a prerequisite the foundation fact that he, the patentee, would have made a measurable portion of the infringer's sales but for the infringement. Here Bell was selling hosiery, not mending machines. The prerequisite is lacking.

The motion of Bell for a protective order is allowed, and it is ordered that the depositions proposed to be taken by Marvel shall be limited to inquiry tending to show loss or damage which Marvel has suffered by reason of infringement *or* what is a reasonable royalty; provided, however, that the inquiry with respect to reasonable royalty shall *not* extend, directly or indirectly, to the savings or profits gained by Bell as an infringer.

The Special Master is directed to complete his inquiry as soon as he may conveniently do so, and to determine the damages suffered by Marvel by reason of Bell's infringement and/or the reasonable royalty that Marvel may be entitled to have for the infringing use of the machines, provided that the latter inquiry is limited as hereinabove set out. After making the foregoing determinations, the Special Master should recommend to the court whether or not damages ought to be tripled, and should make a determination with respect to the taxation of costs, subject to review by the court.

By consent, it is ordered that Honorable Paul B. Bell be, and he hereby is, discharged as counsel for defendant

Stanford Marley Distributing Company, Inc. having no further responsibility from this date hence with respect to representation of that company.

See: *Zyspset* v. *Popeil Brothers, Inc.*, 318 F.2d 701, 708 (7th Cir. 1963);

Berry Brothers Corp. v. *Sigmon*, 317 F.2d 700, 706 (4th Cir. 1963);

Faulkner v. *Gibbs*, 199 F.2d 635 (9th Cir. 1952);

Porrine v. *Burdick*, 138 F.2d 861 (8th Cir. 1943);

Georgia Pacific Corp. v. *U. S. Plywood Corp.*, 146 U. S. Patent Quarterly 228 (S.D.N.Y. 1965);

Technograph Printed Circuits, Ltd. v. *Bendix Aviation Corp.*, 218 F. Supp. 1 (D.C. Md. 1963), aff'd 327 F.2d 497 (4th Cir. 1964);

Sel-O-Rak Corp. v. *Henry Hanger & Display Fix. Corp.*, 159 F. Supp. 769, 776 (D.C. Fla. 1958);

Excelsior Steel Furnace Co. v. *F. Mayer & Bro. Co.*, 36 F.2d 447 (7th Cir. 1929);

Wedge v. *Waynesboro Nurseries*, 31 F. Supp. 638 (D.C. Va. 1940).

This 1st day of October, 1965.

/s/ J. B. Craven, Jr.
J. Braxton Craven, Jr.
Chief Judge, United States District Court for the Western District of North Carolina

A true copy
Teste:
Thos. E. Rhodes, Clerk
By: Verna Barttell
Deputy Clerk

APPENDIX G

Filed Nov 5 1964

Order

Pursuant to Memorandum of Decision filed herein, it is ordered that S. J. Ervin, III, Attorney at Law, Morganton, North Carolina, be, and he hereby is, appointed Master to act pursuant to Rule, 53 Federal Rules of Civil Procedure, to ascertain the extent of infringement of the patent in suit by each of the defendants since Stanford Marley Distributing Company, Inc. commenced the sale of machines containing the patented mechanism, and to determine the damages authorized by 35 U.S.C.A. Section 284, as recently interpreted in *Aro Manufacturing Co.* v. *Convertible Top Replacement Co.*, —— U.S. ——, 12 L.Ed. 2d 457, 84 S.Ct. 1526 (1964). The Master is granted all of the powers authorized by Rule 53. He shall take evidence as provided in said rule and report the same, together with his findings of fact and conclusions of law, to the court.

The taxing of costs (including Master's compensation) will be deferred until the reference is completed.

This 3rd day of November, 1964.

/s/ J. B. CRAVEN, JR.
J. Braxton Craven, Jr.
Chief Judge, United States District Court for the Western District of North Carolina

A true copy
TESTE:
THOS. E. RHODES, Clerk
By: V. E. BARTTELL
Deputy Clerk

Filed Nov 5 1964

Memorandum of Decision

(Heard October 5, 1964; Decided November —, 1964).

Kester Walton, Ashville, N. C., and Raymond P. de Member and J. Russell Verbrycke, III, Washington, D. C., for Plaintiff; Paul B. Bell, Charlotte, N. C., for Defendants.

CRAVEN, Chief Judge:

Infringement by defendants of plaintiff's patent has been determined. *Marvel Specialty Co.* v. *Bell Hosiery Mills, Inc.*, 216 F. Supp. 824 (W.D.N.C. 1963); affirmed in part and reversed in part, 330 F.2d 164 (4th Cir. 1964).

Plaintiff is entitled to have "damages adequate to compensate for the infringement" (of its patent) "but in no event less than a reasonable royalty for the use made of the invention by the infringer, together with interest and costs. . . ." 35 U.S.C.A. Section 284. The court may increase the damages up to three times the amount found or assessed. Also the court may receive expert testimony as an aid to the determination of damages or of what royalty would be reasonable under the circumstances. *Ibid.*

A reference to a Master is specifically authorized by Rule 53(b) for the reason that an accounting will be required. The parties do not genuinely disagree as to the necessity for an accounting, but are poles apart as to its nature and extent. Plaintiff urges in oral argument and its brief that the measure of damages ought not to be determined until after a Master has exhaustively and with the aid of an accountant determined the account, and that the Master ought to be left free to explore all aspects of the question of damages and to thereafter select and determine the most appropriate theory. De-

fendants urge that such an approach would be unnecessarily burdensome and expensive; that to determine plaintiff's recovery, if based on the amount of profits which each of the defendants has made from the manufacture and use of the infringing hosiery mending machines, would require a Master who is both a lawyer and an accountant or a lawyer who would then require the extensive testimony of an accountant.

Sooner or later the court must determine the measure of damages. It ought to be determined now so that the Master can narrow the scope of his inquiry. Obviously the relevant facts vary considerably as the approach may vary from (1) damage to the patent holder to (2) profits gained by the infringers. Nothing is to be gained by having the Master ride off in both directions.

The problem would be much more difficult but for the recent decision in *Aro Manufacturing Co.* v. *Convertible Top Replacement Co.*, —— U.S. ——, 12 L.Ed. 2d 457, 84 S.Ct. 1526 (1964). The following language from the opinion is controlling here:

> "In patent nomenclature what the infringer makes is 'profits'; what the owner of the patent loses by such infringement is 'damages.'" Duplate Corp. v. Triplex Safety Glass Co., 298 U S 448, 451, 80 L ed 1274, 1278, 56 S.Ct. 792. Profits and damages have traditionally been all-inclusive as the two basic elements of recovery. Prior to 1946, the statutory precursor of the present Section 284 allowed recovery of both amounts, reading as follows:
>
> > "(U)pon a decree being rendered in any such case for an infringement the complainant shall be entitled to recover, in addition to the profits to be accounted for by the defendant, the damages the complainant has sustained thereby. . . ." R.S. Section 4921, as amended, 42 Stat 392.

By the 1946 amendment, Act of August 1, 1946, c. 726, Section 1, 60 Stat 778, USC (1946 ed.), Sections 67, 70, the statute was changed to approximately its present form, whereby only "damages" are recoverable. The purpose of the change was precisely to eliminate the recovery of profits as such and allow recovery of damages only.

"The object of the bill is to make the basis of recovery in patent-infringement suits general damages, that is, any damages the complainant can prove, not less than a reasonable royalty, together with interest from the time infringement occurred, rather than profits and damages." HR Rep No. 1587, 79th Cong 2d Sess (1946), to accompany HR 5311, at 1-2; S Rep No. 1503, 79th Cong 2d Sess (1946), to accompany HR 5311, at 2.

There can be no doubt that the amendment succeeded in effectuating this purpose; it is clear that under the present statute *only damages are recoverable.* (Emphasis Mine.)

It is adjudged that it is necessary and appropriate to refer this matter to a Master for an accounting, and one will be appointed to act pursuant to Rule 53, Federal Rules of Civil Procedure, to ascertain the extent of the infringement of the patent in suit by each of the defendants since Stanford Marley Distributing Company, Inc. commenced the sale of machines containing the patented mechanism, and to determine the damages authorized by 35 U.S.C.A. Section 284, as recently interpreted in *Aro Manufacturing Co.* v. *Convertible Top Replacement Co., supra.* The Master is granted all of the powers authorized by Rule 53. He shall take evidence as provided in said rule and report the same, together with his findings of fact and conclusions of law, to the court.

The taxing of costs (including Master's compensation) will be deferred until the reference is completed.

An Order appointing a Master will be entered immediately.

This 3rd day of November, 1964.

/s/ J. B. CRAVEN, JR.
J. Braxton Craven, Jr., Chief Judge, United States District Court for the Western District of North Carolina

A true copy
TESTE:
THOS. E. RHODES, Clerk
By: V. E. BARTTELL
Deputy Clerk

APPENDIX H

330 Federal Reporter, 2d Series

MARVEL SPECIALITY COMPANY, INC., *Appellant and Cross-Appellee,*

v.

BELL HOSIERY MILLS, INC., *Appellee and Cross-Appellant.*

No. 9112

UNITED STATES COURT OF APPEALS
FOURTH CIRCUIT

Argued Nov. 12, 1963

Decided April 3, 1964

Patent infringement suit. The United States District Court for the Western District of North Carolina, at Asheville, James Braxton Craven, Jr., Chief Judge, held that one accused device infringed but that the other did not,

216 F. Supp. 824. Both parties appealed. The Court of Appeals, Boreman, Circuit Judge, held that, under the doctrine of equivalents, the second device also infringed upon a patent for apparatus for mending hosiery.

Affirmed in part, reversed in part and remanded for appropriate proceedings.

* * * * * * * * * *

Before HAYNSWORTH and BOREMAN, Circuit Judges, and BARKSDALE, District Judge.

BOREMAN, Circuit Judge.

This is an action for patent infringement. The District Court found the patent valid and infringed by one accused device but not infringed by another. Both parties have appealed.

The patent in suit is United States patent No. 2,570,637, entitled "Method of and Apparatus for Mending Hosiery" issued to Merle M. Brown in October of 1951 and relates to a method and machine for repairing "pulled threads" in knitted fabrics. However, at the beginning of the trial the *sole* method claim was disclaimed and only the apparatus claims are in issue here.

Plaintiff, Marvel Specialty Company, Inc., has been the owner of the Brown patent since its issuance. Defendant, Bell Hosiery Mills, Inc., is accused of infringing the Brown patent by its use of two types of mending machines purchased from Stanford Marley Distributing Company, Inc., of New York City. The latter company has conducted the defense of this action.

The accused devices, like the patented machine, are designed to repair pulled threads in knitted fabrics. Knitted fabrics normally are composed of one long strand of a single thread which is tied in a series of interlocking loops by the formation of slip knots. In knitted wear such as women's hosiery, these loops are formed in equal

size and in parallel rows. A "pulled thread" in knitted fabric results when one of the loops so formed is snagged and becomes greatly enlarged thus reducing the size of a number of adjacent loops in the same row and drawing closer together the two parallel rows of loops on each side of the row containing the pulled thread. The loops so reduced produce a clearly definable line in the plane of the fabric which, together with the conspicuous pulled loop, readily detracts from the fabric's appearance and renders it defective. The salability of an article containing a pulled thread is substantially impaired and unless the thread is repaired the article must be discarded or sold as second quality. In the manufacture of light weight knitted wear, particularly sheer articles such as ladies' hosiery, the pulling of a thread may very easily occur even when the article is handled by a skilled operator exercising all reasonable care.

Prior to the invention of the machine which is the subject matter of the Brown patent, the correction of pulled threads presented a serious problem to the hosiery manufacturing industry. Correcting pulled threads was costly and time consuming and resulted in limited production in many knitting mills. The loops were repaired principally by the use of a hand tool consisting of a single needle mounted in an appropriate handle. A hand-tool device of this type is the subject of the Hutchison patent,[1] and will be referred to as the Hutchison device or hand tool. Pulled loops were repaired by the use of the Hutchison device in the following manner: That portion of the fabric containing the pulled and reduced loops was placed under light tension over the opening of a hollow mending cup thus causing the thread from the pulled loop to move back into the plane of the fabric and to produce a hole bounded on each side by reduced loops. The operator then

[1] United States patent No. 2,493,876 issued to R. D. Hutchison January 10, 1950.

manipulated the needle in a stroking fashion, beginning at the area of the pulled thread and moving along the series of abnormally small loops on one side of the hole. On each stroke the needle contacted a plurality of loops. This stroking action had the effect of withdrawing thread from the enlarged loop and restoring it to the reduced loops, thus eventually returning all of the loops to their normal size.

The Patented Machine

The plaintiff's patented commercial machine is called the "Marvel" machine. It is adapted to perform the same function accomplished by the Hutchison device, i.e., the restoration of pulled and reduced loops in knitted fabric to their normal size. Essentially, the machine consists of a spindle, adapted to be rotated about its longitudinal axis, mounted in a handle, with a hub, on which a circular series of work engaging elements are mounted, affixed to the spindle and rotatable therewith. The work engaging elements of the Marvel machine are twelve flexible needles which extend radially from the hub so that their outer ends define a circle and are sloped rearwardly or away from the point of impact to avoid snagging or tearing the fabric. Although no definite thickness is specified in the patent, the ends of the work engaging elements must have a thickness which is less than the width of a course of the fabric. Plaintiff's commercial machine is driven by an electric motor at a speed which causes the impacting elements to strike the fabric at a rate of approximately 4800 blows per minute. The flexible elements travel in a circular path with each needle striking and sliding over a plurality of loops. The mending elements, exclusive of power source, of all of the machines are small enough to be easily held in the hand of an operator.

The Miracle Type Machine

One of the machines purchased from the Stanford Marley Distributing Company was the machine referred to through-

out the trial as the Miracle type device[2] which very closely approximates the plaintiff's commercial machine. The only significant difference between the two is in the nature of the impact or work engaging elements. Unlike the flexible, needlelike members of the Marvel, the impact elements of the Miracle machine are rigid projections shaped like the teeth of a saw. The speed of the Miracle machine may be varied and it is capable of operating at much higher speeds than the Marvel machine. Defendant concedes that claim I of the Brown patent literally comprehends the Miracle machine.

The Miracle Type Machine

[1, 2] The differences between plaintiff's commercial machine and the Mend-More machine, the second accused device, are more fundamental. It was stipulated at trial that Mayer patent No. 2,819,598 describes the relevant parts of the accused Mend-More machine.[3] Basically, the

---

[2] "Miracle" was the brand name of a machine embodying the same structure as the accused device. It has been used to designate the saw-tooth type machine.

[3] United States patent No. 2,819,598 was issued to H. G. Mayer on January 14, 1958. The accused Mend-More machine is made by Stanford Marley Distributing Company, Inc., under a license from Mayer. The Mayer patent specification itself states that it is an improvement on the Marvel device. It should be noted that the making of patentable improvements does not avoid infringement. Ackermans v. General Motors Corp., 202 F. 2d 642 (4 Cir.), cert. denied, 345 U.S. 996, 73 S. Ct. 1139, 97 L. Ed. 1403 (1953); Wine Ry. Appliance Co. v. Baltimore & O.R. Co., 78 F. 2d 312 (4 Cir. 1935); Waterproof Insulation Corp. v. Insulating Con. Corp., 153 F. Supp. 626 (D. Md. 1957). As stated in Wine Ry. Appliance Co. v. Baltimore & O. R. Co., supra, 78 F. 2d at 316: "Patentable difference does not of itself tend to negative infringement. It may just as well be based upon infringement, plus improvement; and improvement may lie in addition, simplification, or variance."

Where an improvement patent comprehends an earlier patent, neither of the two patentees can lawfully use the invention of the other without the other's consent. Cantrell v. Wallick, 117 U.S. 689, 694, 6 S. Ct. 970, 29 L. Ed. 1017 (1886).

Mend-More, like the Marvel, comprises a spindle adapted to be rotated about its longitudinal axis, with a hub, on which the work engaging element is mounted, fixed on the spindle and rotatable therewith. Unlike the Marvel, however, the Mend-More machine has a single work engaging element which is a rigid, elongated blade. This blade is eccentrically mounted on the hub and pivotally attached to the handle in such a manner that rotation of the hub, upon the communication of power from the motor, causes the blade to move in an elliptical or curvilinear path. The lower portion of the movement of the Mend-More blade is substantially the arc of a circle so that the *path* of the blade in the area in which the blade engages the fabric closely approximates the *path* of the impacting elements of the Marvel and Miracle machines. The working end of the Mend-More blade is V-shaped, its impacting edge being sloped rearwardly or away from the fabric. The Mend-More machine, unlike the Miracle machine, is not comprehended by the literal language of the Brown patent claims.

Procedural History of This Action

Before passing on to a consideration of the issues of validity and infringement, we review briefly the procedural history of this action. The complaint was filed in August of 1959. The defendant answered in February of 1960, admitting that the Brown patent was valid and infringed by the Miracle machine but denying that the Mend-More machine infringed. In March of 1960 the defendant filed an amended answer in which it deleted the confession of judgment with respect to the Miracle machine, and in September filed a further amended answer denying the validity of the Brown patent. Prior to the trial the plaintiff specified claims 1, 2, 4, 7, and 10 as those on which it would rely. At the opening of the trial,

however, plaintiff disclaimed claim 10,[4] the only method claim involved. The reason given for the disclaimer was that plaintiff had just discovered that the claim was misdescriptive of the method actually employed in the correction of pulled loops. Method claim 10 was concededly misdescriptive of the actual method employed in two respects. First, claim 10 described a method of striking a single loop a series of blows before the next loop was contacted. As previously stated, the Marvel device actually strikes a plurality of loops upon each movement of an impacting element across the fabric. Indeed, the operation described in claim 10 with reference to striking a single loop is impossible to perform. Secondly, claim 10 stated that the above procedure was continued until all of the

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[4] A formal disclaimer was filed in the patent office immediately after the trial. Method claim 10 is set forth below:

"10. The method of restoring to original condition a distorted course of a knitted fabric one loop of which has become enlarged by the incorporation therein of material withdrawn from adjacent loops which have for this reason been reduced, comprising, placing an area of the fabric which includes the enlarged and reduced loops under light tension and, while maintaining the fabric under tension, withdrawing material from the enlarged loop and adding it to the reduced loops until all are restored substantially to normal size, by striking a distorted loop located closely adjacent the enlarged loop a series of relatively light rapidly repeated blows applied in a direction longitudinally of the distorted course and away from the enlarged loop by impact members the effective widths of the work engaging surfaces of which do not exceed the width of a normal course of the fabric, thereafter similarly applying a series of similarly directed relatively light and rapidly repeated blows in succession to those remaining distorted loops of the course which are located upon the same side of the enlarged loop as the loop first engaged and thereby restoring to normal size all distorted loops of the course upon that side of the enlarged loop and reducing the enlarged loop, and thereafter similarly acting upon in succession the distorted loops of that portion of the distorted course which are disposed upon the opposite side of the enlarged loop."

loops on one side of the center hole had been returned to their normal size before repair of the other side was begun. Actually, however, when the patented device is employed, some of the loops on the side first acted upon are enlarged beyond their normal size and are not returned to normal until the other side is repaired. It was the discovery of this latter phenomenon which allegedly caused the plaintiff to disclaim the method claim.

During the course of the trial, the defendant asked leave to amend its answer, pursuant to Rule 15(b) of the Federal Rules of Civil Procedure, to allege misuse of the Brown patent because of the inclusion of allegedly unlawful restrictive covenants in certain lease agreements covering the Marvel machine, and to allege that the patent was unenforceable because the plaintiff knew or should have known for some years that the method claim was invalid. The court granted leave to amend.

[3] The District Court held that the Brown patent was valid and that the Miracle machine infringed but the Mend-More machine did not infringe. Collaterally, the court held that plaintiff was not guilty of misuse so as to bar enforcement of the patent. Each party has appealed from the rulings adverse to it.[5]

Validity

[4] We believe that the District Court was plainly correct in holding the Brown patent valid. The basic requirements for patentability are set forth in 35 U.S.C.A. §§ 102

[5] On this appeal the defendant has not argued the question of misuse in its brief. Pursuant to this court's Rule 10, par. 8, the point "will be deemed abandoned."

and 103.[6] Section 102 contains the requirement of novelty and says, in essence, that an invention is not patentable if it was previosuly known or used by others in this country, or patented or described in a printed publication in this or a foreign country. Section 103 adds to the requirement of novelty that of invention. It provides that an invention to be patentable must differ from the prior art in such a manner that the subject matter as a whole would not have been obvious at the time of the invention to a person having ordinary skill in the art.

There can be no question of the novelty of Brown's invention. As pointed out by the District Court, there was no patent literature on machines for mending pulled threads prior to the Brown invention. Except for the Hutchison hand tool, there were no machines in existence which could be used to repair pulled threads in knitted fabric. The prior art cited by the Patent Office ranges from auto wheels

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[6] 35 U.S.C.A. § 102 (1958) provides in pertinent part:

"A person shall be entitled to a patent unless—

"(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for patent, or

"(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States, * * *"

35 U.S.C.A. § 103 (1958) provides:

"A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made."

to rug beaters and certainly does not demonstrate lack of novelty in Brown's invention. A more closely related invention is the German patent cited by the defendant in the District Court.[7] This patent, however, relates to an apparatus for smoothing woven fabrics and could not be used to correct pulled threads in knitted fabric. It clearly does not anticipate the Brown invention so as to negate novelty under section 102. The only real question as to the validity of the patent is not one of novelty or prior use but one of invention.

The extent to which the enactment of section 103 of the statute altered prior law is not altogether clear. See Berry Brothers Corporation v. Sigmon, 317 F.2d 700, 704 (4 Cir. 1963); Triumph Hosiery Mills, Inc. v. Alamance Industries, Inc., 299 F.2d 793, 800 (4 Cir.), cert. denied, 370 U.S. 924, 82 S.Ct. 1566, 8 L.Ed.2d 504 (1962). It is apparent, however, that something less than a "flash of genius" or "inventive genius" may fulfill the mandate of the statute. Berry Brothers Corporation v. Sigmon, supra; Reiner v. I. Leon Co., 285 F.2d 501 (2 Cir. 1960) (L. Hand), cert. denied, 366 U.S. 929, 81 S.Ct. 1649, 6 L. Ed.2d 388 (1961). A number of cases, both before and after enactment of the statute, have undertaken to comprehensively set forth the standard of invention to be used as a test for determining patent validity. When the mass of verbiage has been distilled, however, we have little more to guide us than the test which is incorporated in section 103, that is, whether, in view of the prior art, the subject matter of the patent would have been obvious at the time of the invention to a person having ordinary skill in the art.

Of course, any determination of obviousness requires analysis of the extent to which the prior art had developed. As previously stated, the only prior art device used to repair pulled threads was the Hutchison device which ac-

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[7] German, Ruizand Patent No. 23,334, issued January 9, 1883.

complished the same result as the patented machine, *i. e.*, the restoration of pulled threads in knitted fabric. In a sense, it achieved the result in the same manner by striking the reduced loops a plurality of blows and withdrawing thread from the enlarged loop. But, as the District Court found, the patented machine operates in a fundamentally different manner from the Hutchison device. "The rotation of the Brown spindle and hub is not the same operation as the stroking hand operation." And, of course, the differences in structure are great. There is no question that the patented machine represented a great advance in the art of correcting pulled threads in knitted fabrics. We think it clear that mere familiarity with the teachings of the Hutchison patent would not suggest the advance made by Brown. But defendant contends that knowledge of patents and machines from other arts would, when considered in the light of Hutchison, render the Brown invention obvious. Principal reliance is placed by the defendant upon the German Ruizand patent (No. 23,334) and the United States Woodhead patent (No. 2,084,367).

Both the Ruizand and Woodhead patents relate to machines designed to operate on woven fabrics. Ruizand discloses a circular series of self-sustaining impact members which operate to straighten or smooth the threads of woven fabric as the cloth is moved beneath the impacting members. The impacting members are attached to hubs or discs which are mounted on a shaft next to a grooved pulley. A rope belt passing through the pulley rotates the hubs causing the impact members to engage the work. In operation, the hubs rotate in a fixed position and a bolt of cloth supported at one end is led beneath the rotating discs and taken up at the other end. As the cloth passes under the rotating wheels which are spaced a short distance apart across the fabric, the circularly mounted blades beat the fabric, broadening and smoothing the threads. The impacting elements of the Ruizand machine are elongated blades having a diameter of between two and three feet

and a radius at the ends of approximately one inch. The machine is approximately six feet square.

The Woodhead patent relates to an apparatus for preshrinking woven cloth. Its relevant disclosure concerns an assemblage of closely positioned, thin, saw-toothed discs upon a shaft or axis. The discs, or blades, are adapted to engage a strip of cloth as it is moved along an apron beneath them. The blades, which are rotated in the same direction that the cloth is moving, penetrate the fabric and move the weft threads closer together. The patent states that the teeth of the discs "are preferably relatively fine, pointed at their ends, beveled on the sides and slightly undercut to permit ready penetration of the cloth web and yarn components * * * without injury or tearing upon entry and withdrawal." Like the blades in Ruizand, the discs described in the Woodhead patent are very large, probably a foot in diameter. The teeth of the discs are sloped toward the point of impact with the fabric or in the opposite direction from the slope of the impacting elements of the Marvel machine. Since the teeth actually penetrate the fabric, the speed of the discs relative to the speed of the cloth must be very slow to avoid tearing the fabric.

It is apparent that the Ruizand and Woodhead machines differ greatly, in both structure and operation, from the Marvel machine. Both are designed to operate on woven cloth quite dissimilar in composition to knitted fabric. Neither could be modified to correct pulled threads in knitted wear.[8] Other prior art citations are even less apposite.

[5] Analysis of the prior art citations discloses that each of the elements of the Brown invention is old, but that fact does not defeat patentability. As stated by Judge

[8] Of course, even if the machine could be modified to work on knitted fabric that fact would not defeat patentability unless modification would have been suggested to a person of ordinary skill in the art. See Duo-Flex Corporation v. Building Service Company, 322 F. 2d 94, 96 (5 Cir. 1963).

Learned Hand in Reiner v. I. Leon Co., 285 F.2d 501, 503 (2 Cir. 1960):

> "* * * It is idle to say that combinations of old elements cannot be inventions; substantially every invention is for such a 'combination': that is to say, it consists of former elements in a new assemblage. All the constituents may be old, if their new concourse would not 'have been obvious at the time the invention was made to a person having ordinary skill in the art' * * * ."

[6] Accord, Duo-Flex Corporation v. Building Service Company, 322 F.2d 94 (5 Cir. 1963). And, as this court has stated, the validity of a patent combining old elements "depends upon whether these elements have been put together in such a manner, not obvious to a person skilled in the art, as to produce a new and better result * * *." O.M.I. Corporation of America v. Kelsh Instrument Co., 279 F.2d 579, 582 (4 Cir. 1960); see Entron of Maryland, Inc. v. Jerrold Electronics Corp., 295 F.2d 670 (4 Cir. 1961); Colgate-Palmolive Company v. Carter Products, 230 F.2d 855 (4 Cir.), cert. denied, 352 U.S. 843, 77 S.Ct. 43, 1 L.Ed.2d 59 (1956); American Chain & Cable Co. v. Rochester Ropes, 199 F.2d 325 (4 Cir. 1952). Although the Hutchison hand tool could be used to repair pulled threads, the patented Marvel machine manifestly achieves a new and better result within the meaning of the above-quoted language.

The very significant differences between the Ruizand and Woodhead machines and the patented Marvel machine, in terms of function and manner of operation, militate against a determination that the Brown invention would have been obvious to a person of ordinary skill in the art. Such a determination would be particularly difficult in view of the great disparity in composition between knitted fabric and the woven material on which the Ruizand and Woodhead machines were designed to operate.

Defendant emphasizes the testimony of its expert, Robert H. Lawson,[9] that the prior art could teach one interested in the repair of pulled threads to construct a suitable apparatus. A sufficient rejoinder is the statement of Justice McKenna in Diamond Rubber Co. of New York v. Consol. Rubber Tire Co., 220 U.S. 428, 435, 31 S.Ct. 444, 447, 55 L.Ed. 527 (1911):

> "* * * Knowledge after the event is always easy, and problems once solved present no difficulties, indeed, may be represented as never having had any, and expert witnesses may be brought forward to show that the new thing which seemed to have eluded the search of the world was always ready at hand and easy to be seen by a merely skillful attention. But the law has other tests of the invention than subtle conjectures of what might have been seen and yet was not. * * *"

The difficulty of determining subjectively at some removed time whether a particular invention would have been obvious to a person of ordinary skill in the art has caused this court, as well as others, to seek objective criteria of obviousness. See e. g., Honolulu Oil Corporation v. Shelby Poultry Company, 293 F.2d 127, 130-131 (4 Cir. 1961); Reiner v. I. Leon Co., 285 F.2d 501, 503-504 (2 Cir. 1960). Resort to the objective indicia in the record of this case amply supports the District Court's determination of validity.

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[9] It should be noted that Mr. Lawson did not testify that the Brown invention would have been obvious to a person of ordinary skill in the art. His testimony was to the effect that inventions had been suggested to him by prior art which was further removed than the German patent. Mr. Lawson was, perhaps, a person of greater than ordinary skill, having himself secured more than 200 patents.

[7] Prior to the Brown invention, the correction of pulled threads represented a problem of long duration in the knitting industry. Prior art tools and methods were inadequate to cope with the problem. Use of the Hutchison hand tool was costly and time-consuming. It resulted in reduced production in many mills. Yet, no one came forward with a better means of correcting pulled threads. When the Brown invention was disclosed it was immediately accepted by the industry as the solution to the problem. Within three and a half months after the first attempt to lease a machine embodying the Brown patent, every major hosiery mill in the United States had taken a lease. Within eight months approximately 635 mills, comprising 90 per cent of the industry, had accepted leases. The commercial success achieved by the machine was indeed remarkable and it was accomplished with very little advertising. While commercial success cannot lend validity to a patent where invention is clearly wanting, this court has consistently recognized that it is a relevant factor which may be convincing in a close case. See, e.g., Power Curbers, Inc. v. E. D. Etnyre & Co., 298 F.2d 484 (4 Cir. 1962); S. H. Kress & Company v. Aghnides, 246 F.2d 718 (4 Cir.), cert. denied, 355 U.S. 889, 78 S.Ct. 261, 2 L.Ed.2d 189 (1957); Hutzler Bros. Co. v. Sales Affiliates, 164 F.2d 260 (4 Cir. 1947). In addition, the disclosures of the Brown patent resulted in a great benefit to the hosiery industry. The cost of mending was reduced from an average of seventy cents to twenty-five cents per dozen hose. At the same time, the earnings of menders were increased and the mending of long pulls made practicable. As pointed out by the District Court, the correction of pulled threads was changed from a tedious hand operation to a mass production machine operation.

In view of the apparent need which so long had persisted, the obvious benefits to be gained by both the inventor and the industry from meeting the need, and the failure of anyone to meet it, we think the finding of patentable in-

vention can be sustained even without considering the statutory presumption of validity.[10]

[8, 9] Defendant predicates a further attack on the patent's validity upon an alleged failure to comply with 35 U.S.C.A. section 112. Section 112[11] provides that the patent specification shall maintain a description of the invention and of the manner of making and using it. It is undisputed that the patent adequately discloses how to make the machine. Defendant contends, however, that since the specification is phrased in terms of the concededly erroneous method claim 10, it does not disclose how the machine is actually used. In other words, defendant asserts that the specifications teach an operator to strike one loop a plurality of blows before contacting the next loop. In fact, when the machine is used a plurality of loops are contacted upon the movement of a single impact member across the fabric; therefore, defendant asserts, the specifications are fatally defective in that the operator is told to strike one loop

[10] 35 U.S.C.A. § 282 (1958) provides that "[a] patent shall be presumed valid. The burden of establishing invalidity of a patent shall rest on a party asserting it." Defendant has argued that this presumption is weakened or destroyed by the failure of the plaintiff to disclose to the Patent Office the fact that the width of the Hutchison needle was less than a normal course of the fabric on which it was used. Even if defendant's contention is correct, which we do not decide, it would not change our view of the case.

[11] Section 112 provides in pertinent part:

"The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention.

"The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention."

when, in fact, it must strike a number of loops. This intention is without merit. It is not necessary, to sustain the validity of an apparatus claim, that an inventor understand or be able to articulate the scientific principles underlying his invention.[12] The test of whether disclosure is adequate is an operational one. All the statute requires is that the patent disclose how to make and use the invention. We believe the Brown patent meets this requirement. The specifications teach an operator to place the fabric containing the pulled thread in slight tension over the opening of a mending cup. They then direct the operator to position the implement so that the tips of the work-engaging elements will successively engage the first collapsed loop on one side of the center hole. The operator is then told to draw the implement toward himself while maintaining the tips of the elements in the same plane so that they will continue to strike the loops and to repeat the operation if necessary. All of the information necessary to enable one skilled in the art to use the Brown invention is contained in the specification. The inaccurate description of delivering a plurality of blows to a single loop is not material and any difficulty due thereto is more theoretical than real. As the defendant has emphasized, any attempt to use the patented machine results in a plurality of loops being contacted. When a machine is used as directed in the specifications, except that instead of striking a single loop the impacting elements strike a number of loops, the pulled thread is repaired. This case differs markedly from those cases relied upon by defendant where an inadequate or erroneous disclosure resulted in actual inability to make or use the invention.[13] The Brown invention has been put

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[12] Lever Bros. Co. v. Procter & Gamble Mfg. Co., 139 F. 2d 633 (4 Cir. 1943); see Standard Coil Products Co. v. General Electric Company, 306 F. 2d 319, 323 (2 Cir. 1962).

[13] See, e. g., Standard Coil Products Co. v. General Electric Company (see footnote 12).

into practice. The world has been given something new and taught to use it. Lever Bros. Co. v. Procter & Gamble Mfg. Co., 139 F.2d 633, 638 (4 Cir. 1943). We think the erroneous description relates much more directly to the method by which the invention operates than it does to how it is used. The sole method claim has been disclaimed and, since the specifications sufficiently explain how the machine is made and used, the apparatus claims are not affected.[14]

Infringement by Miracle

[10-12] Certainly the most difficult question to resolve is that of infringement. As previously stated, the District Court held that the Miracle type machine infringed the patented invention while the Mend-More machine did not. We think the court's conclusion with respect to the Miracle machine is plainly correct. Claim 1 of the Brown patent, stipulated as representative of the apparatus claims in issue, reads as follows:

> "1. Apparatus for restoring to original condition a knitted fabric one loop of which has become enlarged and adjacent loops reduced, comprising, in combination, a spindle adapted to be rotated about its longitudinal axis, a hub fixed upon the spindle and rotatable therewith, and a circular series of self sustaining work engaging elements mounted upon said hub, said elements being adapted to successively engage the work when the hub is rotated, the work engaging surfaces of said elements at the outer ends thereof facing forwardly and outwardly and being smooth and no wider than a normal course of the fabric to be restored."

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[14] 35 U.S.C.A. § 253 (1958). In relevant part section 253 provides:

"Whenever, without any deceptive intention, a claim of a patent is invalid the remaining claims shall not thereby be rendered invalid. A patentee * * * may, on payment of the fee required by law, make disclaimer of any complete claim * * *."

It is undisputed that claim 1, considered by itself, literally comprehends the Miracle machine. Defendant's sole contention with respect to infringement by the Miracle machine seems to be that when claim 1 is read in the context of the specifications it must be construed as claiming only an apparatus which delivers a number of blows to a single loop. Were we to adopt defendant's argument, we would indeed be engaging in circuitous reasoning. Such a construction of claim 1 clearly would render it invalid as describing an invention which is impossible to construct and use. It is true, as defendant asserts, that patent claims should be interpreted in light of the specifications. See, e.g., Wheeling Stamping Co. v. Standard Cap & Molding Co., 155 F.2d 6 (4 Cir.), cert. denied, 329 U.S. 764, 67 S.Ct. 125, 91 L.Ed. 658 (1946). Here, however, we cannot assign such significance to the erroneous portion of the specifications. Apparently, Brown originally misconceived the method by which his invention operated but there is nothing in either the specifications or the claims to suggest that the latter are limited to machines which operate to deliver a plurality of blows to one loop before contacting another. Claim 1 should be interpreted in accordance with its plain meaning. See Cameron Iron Works v. Stekoll, 242 F.2d 17 (5 Cir. 1957). So construed, it comprehends the Miracle type machine. Therefore, use of the Miracle infringes the Brown invention.

Infringement by Mend-More

Resolution of the question, whether the Mend-More machine infringes the Brown invention, is more difficult. Moreover, both parties have recognized this question as the crucial issue. It is the Mend-More machine which the defendant has principally used and it is that machine which Stanford Marley Distributing Co., Inc., would like to sell.

[13] As previously stated, the Mend-More machine is not literally covered by the Brown patent claims. Therefore, the resolution of the question of infringement de-

pends upon whether the Mend-More machine is equivalent to the patented machine under the doctrine of Graver Tank & Mfg. Co. v. Linde Air Products Co., 339 U.S. 605, 70 S.Ct. 854, 94 L.Ed. 1097 (1950). The reasoning of the District Court in holding that the Mend-More machine did not infringe the Brown patent is revealed in the following excerpt from its opinion:

> "* * * Instead of a plurality of work engaging needles, the Mend-More device employs a single blade mounted eccentrically on a hub. The rotation of the hub is increased some ten times as compared to the Brown device, thereby getting approximately the same number of strokes or blows per minute against the fabric. The action on the fabric is closely similar, but the stroke is slightly flatter and more closely approximates the Hutchison device movement than does the Brown device. Except for the Hutchison prior art, the Graver Tank doctrine of equivalents ought perhaps to be applied to the Mend-More device, but, in view of Hutchison, the broad construction urged by plaintiff for the Brown patent cannot be allowed. To apply the doctrine of equivalents in this case would ignore the teachings of the patent, the representations upon which the claims in suit were allowed, and the representations by which the validity of the Brown patent has been sustained in the prior portion of this opinion. * * * It would be contrary to the teachings of the Brown patent and its file history to say that a single blade is the equivalent of a series of circular arranged flexible needles. Although function and result are the same, the two devices do not operate in the same way. This is emphasized by Brown's claim of novelty over the Hutchison single needle device: the circular arrangement of plural needles. Brown narrowed his claims in order to get his patent issued over Hutchison. He should not now be permitted to get through the doctrine of equivalents what he could not have obtained initially. * * *"

[14] The plaintiff's position, essentially, is that although the District Court's basic factual findings were correct, it drew erroneous conclusions therefrom. We are inclined to agree. A protection which extended only to those devices which exactly copy the patented invention would be a hollow and useless safeguard. The essence of the doctrine of equivalents is that one may not pirate another's patent. The test enunciated in the Graver Tank case for determining equivalency is whether the accused device "performs substantially the same function in substantially the same way to obtain the same result." The Supreme Court pointed out that the theory upon which the doctrine of equivalency is founded "is that 'if two devices do the same work in substantially the same way, and accomplish substantially the same result, they are the same, even though they differ in name, form, or shape.'" [15]

The portion of the District Court's opinion previously quoted indicates that the court was satisfied that the Mend-More met the Graver Tank test of equivalency but felt precluded, by its view of the effect of the prior art Hutchison device and plaintiff's representations with respect thereto, from giving the Brown patent a scope which would include the Mend-More machine. Temporarily putting aside consideration of the effect of the Hutchison patent, it seems clear that the doctrine of equivalents should be applied to the Mend-More machine.

The elements of the Brown invention as set forth in claim 1 include: (1) A spindle adapted to be rotated about its longitudinal axis; (2) a hub fixed upon the spindle and rotatable therewith; and (3) a circular series of self-sustaining work-engaging elements mounted upon the hub. It is apparent that all of the elements of claim 1 except the last are embodied in the Mend-More machine. Instead of a circular series of work-engaging members, the Mend-More uses a single blade. The question for resolution,

[15] 339 U.S. at 608, 70 S. Ct. at 856, 94 L. Ed. 1097.

then, is whether the single blade of the Mend-More is the equivalent of the circular series of impacting members of the Marvel. And this, of course, depends upon whether the two machines perform substantially the same function in substantially the same way to obtain the same result.

In holding the Mend-More machine not to infringe, the District Court was, we believe, unduly influenced by merely formal differences in structure which would not preclude the accused infringer from utilizing the full advantages of the Brown invention.[16] The Mend-More machine unquestionably accomplishes the same result as the patented machine. It performs the same function. We believe it performs that function in substantially the same way.

In operation, the single blade of the Mend-More is so positioned as to engage the first distorted loop on one side of the center hole. It operates to correct the pulled thread, in the same manner as the Marvel, by delivering repeated light blows to the reduced loops and thereby withdrawing the excess thread from the enlarged loop. Like the impacting elements of the Marvel, the leading edge of the Mend-More blade is sloped rearwardly to avoid snagging and tearing the fabric. Thus, in operation the impacting elements of both machines strike and slide over the distorted loops. Significantly, the working element of the Mend-More, like that of the Marvel, engages the fabric through the action of a combination of a rotating spindle and hub. Moreover, the speed of the hub's rotation is increased some ten times so that the single blade of the Mend-More delivers approximately the same number of blows to the fabric per minute as the twelve work-engaging members of the Marvel.

Defendant has emphasized the fact that the working element of the Mend-More travels in an elliptical or curvi-

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[16] See Duo-Flex Corporation v. Building Service Company, supra, 32 F. 2d at 99. (See footnote 8.)

linear path, whereas the path of the Marvel needles is circular. However, we do not think the movement of the blade *outside of the working area* is important.[17] In the working area[18] the Mend-More blade travels in a path, substantially the arc of a circle. It is the path of travel in this area which is significant because it determines how the impact element will engage and act upon the fabric. Since the impact elements of both the Marvel and Mend-More machines travel in substantially the same path through the working area, the action of the elements of each machine on the fabric is, as the District Court found, "closely similar." Additionally, it should be noted that the movement achieved in the Mend-More by the eccentric connection of the blade to the hub is an old and well known mechanical movement which could be readily adapted to produce the action upon the fabric achieved by the Marvel machine.

In the Graver Tank case, the Supreme Court emphasized that in determining equivalence "[c]onsideration must be given to the purpose for which an ingredient is used in a patent, the qualities it has when combined with the other ingredients, and the function which it is intended to perform. An important factor is whether persons reasonably skilled in the art would have known of the interchangeability of an ingredient not contained in the patent with one that was."[19] In the circumstances here, we are convinced that the single blade of the Mend-More is in fact the fair equivalent of the circular series of work-engaging elements claimed in the patent.

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[17] Cf. Keiser v. High Point Hardware Company, 199 F. Supp. 623 (M.D.N.C. 1961), rev'd on other grounds, 311 F. 2d 850 (4 Cir. 1962).

[18] The "working area" includes the area immediately preceding and following the blade's contact with the fabric.

[19] Graver Tank & Mfg. Co. v. Linde Air Products Co., 339 U.S. 605, 609, 70 S. Ct. 854, 857, 94 L. Ed. 1097 (1950).

Of course, equivalency in patent law cannot be determined in vacuo. The question of infringement must be considered in the context of the prior art and with an eye to the contribution made by the patented invention. As previously stated, the District Court felt that the prior art Hutchison device precluded its giving a scope to the invention which would cover the single blade Mend-More. The court emphasized that to apply the doctrine of equivalents to the single blade device would ignore the basis upon which it had sustained the patent's validity, and stated: "The claims of the Brown patent 7, 4, 2 and 1 fail to cover the Mend-More device by the very same point or points of novelty that distinguish the claims over Hutchison." In this determination we are of the opinion that the District Court was in error. The Brown invention, completely aside from the circular arrangement of the work-engaging elements, is clearly distinguishable from the Hutchison device. The Brown invention, like the Mend-More, involves a combination of elements. The Hutchison device comprises a single element. Mending by both the Brown and Mend-More machines involves the combined action of a spindle and hub which is different from the stroking hand operation. The District Court, in the portion of its opinion dealing with validity, recognized these differences. It distinguished the spindle used in the Brown invention from the handle of the Hutchison device. The court then went on to point out that the two devices operate in a different manner: "But the actual operation of Brown and Hutchison are different—and not simply in the means for rotating the hub, which is not claimed by Brown. The rotation of the Brown spindle and hub is not the same operation as the stroking hand operation. The work is done in a different way, although the impacting element(s) strike(s) the fabric similarly, with the same result." It was on the basis of the above differences, *common to both Marvel and Mend-More,* rather than the circular arrangement of a series of elements, that the District Court properly dis-

tinguished the Brown invention from the prior art Hutchison device. Clearly the Brown invention more closely approximates the Mend-More machine than it does the prior art hand tool. The Hutchison patent does not preclude a scope for the Brown patent which would cover the Mend-More machine. Such a narrow construction of the Brown patent would be particularly incongruous in view of the very significant contribution to the art made by the invention.

The art to which the Brown invention relates is not a crowded one. The invention is more than a narrow improvement to a complex machine, protection for which should be strictly limited to secure for the public that which it previously had. On the contrary, Brown has ushered in a new art, prompting others to emulate as well as to improve upon his invention. The Brown invention relates to the first machine ever devised which employs a combination of elements to correct pulled threads in knitted wear. As such, it is entitled to protection broad enough to cover the Mend-More machine.[20]

In conclusion, we have carefully reviewed the file wrapper of the Brown patent to determine if there is any representation therein which should estop the plaintiff from claiming that the Mend-More infringes its invention.[21] We have found none. The Hutchison device was not cited against any of the apparatus claims of the Brown patent. No representations based upon the circular series of im-

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[20] See Specialty Equipment & Mach. Corp. v. Zell Motor Car Co., 193 F. 2d 515 (4 Cir. 1952); Saco-Lowell Shops v. Reynolds, 141 F. 2d 587 (4 Cir. 1944).

[21] In its opinion, the District Court indicated that plaintiff had secured the issuance of its patent by representing to the Patent Office that its invention was different from the Hutchison device because of the circular arrangement of plural needles. On appeal, the defendant has not attempted to defend that position but has argued instead that plaintiff secured the patent by erroneous representations as to the method by which its invention operated.

pacting elements were made to distinguish the Brown invention from the Hutchison device. Plaintiff did attempt to distinguish its method claim from the Hutchison patent by pointing out that the impacting members of its invention delivered a series of blows to one loop before acting upon another. However, as previously pointed out, the method claim was disclaimed and there is no reason to suppose that the apparatus claims were granted because of the erroneous representations with respect to method.[22] We reach the conclusion that in law, as well as in fact, the Mend-More device is the equivalent of the Brown invention and infringes.

Affirmed in part, reversed in part and remanded for appropriate proceedings.

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[22] Indeed, review of the file wrapper convinces us that the Examiner was fully aware of the rule that patentability of an apparatus claim cannot be predicated upon a new method.

APPENDIX I

MARVEL SPECIALTY COMPANY, INC., *Plaintiff*,

v.

BELL HOSIERY MILLS, INC., *Defendant*.

Civ. No. 1863.

United States District Court
W. D. North Carolina,
Asheville Division.

Argued Aug. 20, 1962.

Decided April 22, 1963.

Patent infringement suit. The District Court, Craven, Chief Judge, held that claims 1, 2, 4 and 7 of patent number 2,570,637 for an apparatus for mending hosiery were not anticipated by prior art and were valid and were infringed by one device but not by another device.

Judgment accordingly.

* * * * * * * * * *

CRAVEN, Chief Judge.

Apparatus for mending hosiery is the subject of the disputed patent in this case. Simultaneously with the filing of this opinion, the court has filed detailed findings of fact and conclusions of law. Briefly summarized, this is a controversy involving validity and infringement of Brown Patent No. 2,570,637 entitled "Method of and Apparatus for Mending Hosiery" issued October 9, 1951. Plaintiff is the owner of the Brown patent and has been since its issuance. Defendant is accused of infringing the Brown patent by the use of certain mending devices purchased from Stanford Marley Distributing Company, Inc., of New York City, which company is defending this suit for the defendant Bell Hosiery Mills, Inc. By the time of trial, the issue of infringement had been narrowed to Claims 1, 2,

4 and 7, and method Claim 10. After the trial commenced, the plaintiff disclaimed method Claim 10, leaving only the apparatus claims at issue.

The defendant denies infringement of all claims and affirmatively urges invalidity of the Brown patent.

The claims at issue relate to apparatus for repairing pulled threads in knitted fabric. A pulled thread occurs in knitted fabric, such as ladies' sheer nylon hosiery, when a loop in the fabric is greatly enlarged without breaking the thread. This enlargement is brought about through the withdrawal of thread from several adjacent loops on both sides of the pulled loop, thereby resulting in the reduction in size of such adjacent loops. The enlarged loop is displaced out of the plane of the fabric while the reduced loops define a visible line which detracts from the appearance of the fabric. Prior to the Brown patent, pulled threads were mended, for the most part, with a single needle device (fitted with a suitable handle) manipulated by the hand of an operator. This simple device will be referred to hereinafter as the Hutchison device and is the subject of Hutchison Patent No. 2,493,876.

The Brown apparatus (called "Marvel" in the record) for accomplishing this restoration of pulled threads is a mending head comprising a plurality of flexible, curved needles extending radially in a circular series from a hub mounted on a rotatable shaft. The "means for rotating the hub" is not claimed by plaintiff as part of the invention.

There are two accused devices. The Miracle device comprises a metal disc having a plurality of radially extending rigid saw tooth-shaped projections. The disc is mounted on a hub which is, in turn, mounted for rotation on a shaft.

The single blade Mend-More device comprises a single, rigid elongated blade which is eccentrically connected to a hub which is, in turn, mounted for rotation

on a shaft and slidably connected to the housing which encloses such shaft.

The single needle hand device (Hutchison), the multiple needle device (Brown), the saw tooth device (Miracle), and the single blade device (Mend-More) all perform the same function during mending of striking several loops in a line one blow each as the work engaging element (or elements) passes across the fabric. The action on the pulled thread is closely similar. The results accomplished with all four devices are indistinguishable.

Work preparation is identical regardless of which one of the foregoing four devices is being used. The fabric containing the defect is placed under tension over a mending cup. This tensioning of the fabric results in the enlarged displaced loop's partially re-entering the plane of the fabric, thus creating a rather large hole in the fabric, bounded by abnormally large loops which are, in turn, bounded by reduced loops. Using any one of the four devices results in moving the excess thread through or into the distorted loops and restoring them to normal size.

Validity

[1] The asserted invalidity of plaintiff's combination apparatus patent depends upon whether it was obvious to one possessing ordinary skill in the art to piece together the combination in the same way as Brown. Neither Congress nor the courts have formulated a more precise test. Entron of Maryland, Inc. v. Jerrold Electronics Corp., 295 F.2d 670 (4th Cir., 1961).

[2] The controversy turns upon the application to the facts of what Judge Learned Hand called a "misty" rule of law. Reiner v. I. Leon Co., 285 F.2d 501, 503, 504 (2d Cir., 1960). Such application is a process of search and comparison, and little else, and often provokes differences of opinion among judges. See: Cardozo, The Nature of

the Judicial Process, 163, 165 (1960 Ed.). Where possible, the determination of obviousness must be made objectively and not on the basis of subjective speculation. Honolulu Oil Corp. v. Shelby Poultry Co., 293 F.2d 127, 131, 132 (4th Cir., 1961).

The Brown apparatus is the first machine ever devised for the correction of pulled threads in hosiery—unless the Hutchison hand implement be termed a "machine". But defendant strenuously urges that there is nothing new about a rotatable shaft, or a hub mounted thereon, or a needle, or a plurality of needles extending radially from a hub. While it is true that none of these elements are novel, the combination of them was entirely new in the industry. It is perhaps not quite correct to call this patent a "combination of known elements". There were no "known elements" in the prior art except the needle with a handle fitted to it; nor can the handle be equated with the spindle of Brown. The latter was adapted to be rotated about its longitudinal axis, which is not true of the handle operation in Hutchison.

Hutchison comes far closer to anticipation of the Brown patent than any other citation of the prior art. The result is the same (the mending of pulled threads), and the method of achieving the result is essentially similar, i. e., striking or stroking several loops in a line one blow each as the (or each) work engaging element is passed across the fabric. But the actual operation of Brown and Hutchison are different—and not simply in the means for rotating the hub, which is not claimed by Brown. The rotation of the Brown spindle and hub is not the same operation as the stroking hand operation. The work is done in a different way, although the impacting element(s) strike(s) the fabric similarly, with the same result. The claims of Brown are sufficiently narrow to be distinctive over the prior Hutchison patent, and the result achieved is that intended: validity narrowed by the distinctive claims to cover devices only

substantially similar to the device described in the Brown patent.

[3, 4] Whether the elements are old or new, the new arrangement or combination of them is an entity entirely distinct from the elements and is patentable if it either produces a new result or performs an old result in an improved manner. Amdur, Patent Fundamentals, p. 184 (1959). Brown achieves an old result, i.e., the mending of pulled threads, which had previously been achieved by Hutchison, but accomplishes this old result in a greatly improved manner and with tremendously increased efficiency. As a result of the Brown patent, the cost of mending was reduced from 70 cents to 25 cents per dozen of hose while increasing the earnings of menders and making practical the mending of long pulls. Mending pulled threads was changed from a slow hand operation to a mass production type machine operation. Ever since sheer hosiery became popular with women, the problem of pulled threads in the manufacture of it has been of importance to the industry. With the increasing use of nylon after World War II, the problem became of greater importance.

The first effort to lease a machine embodying the Brown patent occurred in November of 1949. Within three and a half months thereafter, every major hosiery mill in the United States had taken a lease. Within approximately eight months, around 635 hosiery mills had accepted leases, comprising 90 per cent of the hosiery industry. All of this remarkable acceptance was accomplished without advertising, except for an ad run in "Women's Wear Daily" about three months after the machine was first introduced. This is indeed remarkable commercial success. The principal salesman of the machine stated that he could not recall one instance of a hosiery manufacturer who saw a demonstration of the machine and declined to accept a lease. All of the necessary parts were available to the trade for many years, yet no one prior to Brown thought to assemble the simple device which is the subject of the apparatus claims.

There was no patent literature on machines for mending pulled threads prior to the Brown invention. Except for Hutchison, which has already been discussed, the prior art citations are in fields far removed from the mending of knitted fabrics and particularly sheer nylon hosiery.

It is thought unnecessary to explain in great detail the application of the other prior art citations. Defendant's own expert admitted that it would be absurd to attempt to mend a pulled thread in hosiery on a machine built according to German Patent No. 23,334 of 1883 (an apparatus for smoothing woven fabrics), and that it would be impractical to modify such a machine so that it could do so. Woodhead Patent No. 2,084,367 relates to apparatus for pre-shrinking cloth and is likewise not anticipatory of the Brown device. Other prior art ranges from auto wheels to rug beaters and simply establish that it is old to fix a hub upon a spindle and superimpose a circular series of self-sustaining work engaging elements. By no stretch of the imagination could any machine built according to any prior patent be modified and adapted to mending pulled threads in a knitted fabric.

[5, 6] Entirely aside from commercial success, which may properly be considered in a close case, defendant has failed to sustain its burden of overcoming the presumption of validity. The Brown patent is valid.

INFRINGEMENT

Infringement is the more difficult problem. In its initial pleading, the defendant admitted that the Miracle machine infringed the Brown patent. Subsequently, it amended its answer to take the position that although the apparatus claims literally described the Miracle machine, it was, nevertheless, not an infringement because the Miracle machine does not perform the same function as the patented apparatus. This position is without merit. Over-simplifying, for the purpose of clarity, the difference between

the Brown (Marvel) device and the Miracle device is simply that Miracle substitutes a plurality of radially extended rigid saw teeth for a plurality of radially extended flexibe curved needles. Actually, Brown's first embodiment of his invention was a solid disc out of which he cut forks or prongs. He had difficulty with it and went on to the wire wheel type which is referred to throughout this opinion as the Brown (Marvel) device. Brown preferred the wire spokes but worked with a saw tooth disc. In any event, the claims of the Brown patent read on the Miracle saw tooth device. But defendant urges that the method is different. What defendant means by this is simply that Miracle infringes the Brown (Marvel) *device* but does not infringe the Brown *patent,* or stated differently, that the Brown (Marvel) device does not faithfully embody the Brown patent because the method claim of the Brown patent has been disclaimed leaving no other method described in the Brown patent with respect to the Brown apparatus claims. It is true that none of the machines actually work on the knitted fabric like the Brown method Claim 10, but that claim has been disclaimed, and in any event, is not relevant to the apparatus claims contained in the Brown patent. The function of both plaintiff's Brown (Marvel) machine is precisely the same as that of the Miracle machine, and, indeed, of the Mend-More and Hutchison devices. All are used for the purpose of mending pulled threads, and have no other use or function. The Brown patent adequately describes the apparatus so that it can be made, and teaches how to use it. More (with respect to method) is not required of an apparatus patent. The Miracle machine infringes the apparatus claims of the Brown patent.

Even harder to resolve is the question of infringement by the Mend-More device. Whether to apply the doctrine of equivalents established by Graver Tank & Manufacturing Co. v. Linde Air Products Co., 339 U.S. 605, 70 S.Ct. 854, 94 L.Ed. 1097 (1950), depends upon whether the construction

of the Mend-More device embodies a major change as compared with the Brown (Marvel) device. Wabash Corp. v. Ross Electric Corp., 2 Cir., 187 F.2d 577; cert. denied, 342 U.S. 820, 72 S.Ct. 38, 96 L.Ed. 620 (1951). Instead of a plurality of work engaging needles, the Mend-More device employs a single blade mounted eccentrically on a hub. The rotation of the hub is increased some ten times as compared to the Brown device, thereby getting approximately the same number of strokes or blows per minute against the fabric. The action on the fabric is closely similar, but the stroke is slightly flatter and more closely approximates the Hutchison device movement than does the Brown device. Except for the Hutchison prior art, the Graver Tank doctrine of equivalents ought perhaps to be applied to the Mend-More device, but, in view of Hutchison, the broad construction urged by plaintiff for the Brown patent cannot be allowed. To apply the doctrine of equivalents in this case would ignore the teachings of the patent, the representations upon which the claims in suit were allowed, and the representations by which the validity of the Brown patent has been sustained in the prior portion of this opinion. See: Union Carbide & Carbon Corp. v. Graver Tank & Manufacturing Co., Inc., et al., 196 F.2d 103; cert. denied, 343 U.S. 967, 72 S.Ct. 1059, 96 L.Ed. 1363; rehearing denied, 344 U.S. 849, 73 S.Ct. 6, 97 L.Ed. 660 (1952). It would be contrary to the teachings of the Brown patent and its file history to say that a single blade is the equivalent of a series of circular arranged flexible needles. Although function and result are the same, the two devices do not operate in the same way. This is emphasized by Brown's claim of novelty over the Hutchison single needle device: the circular arrangement of plural needles. Brown narrowed his claims in order to get his patent issued over Hutchison. He should not now be permitted to get through the doctrine of equivalent what he could not have obtained initially. Equivalents in the patent is not the prisoner of a formula and is not an absolute, and things equal to the

same thing in this area, may not necessarily be equal to each other. Graver Tank & Mfg. Co. v. Linde Air Products Co., supra.

The claims of the Brown patent 7, 4, 2 and 1 fail to cover the Mend-More device by the very same point or points of novelty that distinguish the claims over Hutchison. Plaintiff has failed to carry the burden of proving infringement by the Mend-More device.

Collateral Matters

During the trial, counsel stipulated that all questions would be deemed objected to, and that all objections would be deemed waived, unless renewed in writing. Subsequently, both parties renewed their respective objections to evidence concerning the prior art single needle hand device practice.

Both objections are overruled. Nothing is to be gained by rigid adherence to technical rules of evidence in the trial of a case without a jury. See: United States v. 25,406 Acres of Land, 172 F.2d 990 (4th Cir. 1949). Although the objections are not without merit, they go more to the weight and importance that the court ought to attach to the testimony than to competence. A few minutes' observation of the mending of hosiery by hand (which opportunity was afforded the court) reduces the problem to smaller dimensions. Hutchison teaches the stroking method of the prior hand manipulated art, and the court bases its findings with respect to this aspect of the prior art upon its own observations and the Hutchison patent. In any event, validity and infringement of the Brown patent do not turn upon the challenged evidence.

[7] The defendant moves the court, pursuant to 35 U.S.C.A. § 285,[1] to award reasonable attorney fees to the de-

[1] The court, in exceptional cases, may award reasonable attorney fees to the prevailing party.

fendant, contending that this is an exceptional case making appropriate such an award. But the defendant is not "the prevailing party" except as to noninfringement by the use of the Mend-More device. Even so, the alleged basis for such an award is not deemed to be sufficient. It is true that the plaintiff disclaimed the method claim of the Brown patent at the beginning of the trial, but the court is unable to find from all of the evidence that the late disclaimer was inexcusable or in bad faith. In the opinion of the court, there is no unfairness or other equitable consideration which would make it unjust that defendant bear the burden of its own attorneys fees—even if it be deemed a prevailing party. The court accepts plaintiff's explanation that disclaimer was made within five days after discovery that the method claim was erroneous. A formal disclaimer has been filed in the United Sattes Patent Office. The court concludes that the disclaimer was filed within a reasonable time after knowledge was brought home to the plaintiff that the method Claim 10 was invalid. 35 U.S.C.A. § 253.

After trial, the defendant Bell moved the court, pursuant to 15(b) of the Federal Rules of Civil Procedure, to amend so as to allege misuse of the patent in that (1) Marvel required users to sign lease agreements forbidding the use of other pulled thread mending machines and (2) that Marvel knew or should have known that Claim 10 of the patent was invalid but did not disclaim it until the trial. The motion to amend is allowed. The allegation with respect to failure to disclaim does not require further consideration.

[8, 9] Misuse of a patent does not invalidate it. 69 C.J.S. Patents, § 155. But courts of equity will withhold relief where the patentee and those claiming under him are using the patent privilege contrary to the public interest. Mercoid Corp. v. Mid-Continent Investment Co., 320 U.S. 661, 64 S.Ct. 268, 88 L.Ed. 376, 383 (1944). After the issuance of the patent, only four lease agreements out of hundreds

contained the forbidden clause. These were isolated instances and do not support the inference of a plan to unlawfully extend the monopoly of the patent. Moreover, even these lease agreements (and others executed before the issuance of the patent) contained a "favored nations" clause so that subsequently issued leases had the effect of removing the objectionable clause. Misuse is not established. It would not be equity to deny plaintiff relief where it appears that the use of the inserted clause is inadvertent rather than the result of a scheme to unlawfully extend the patent. Plaintiff has not uesd the patent privilege contrary to the public interest.

Counsel may submit an appropriate judgment.

Filed April 29, 1963

Findings of Fact

1. This matter arises under the laws of the United States and this court has jurisdiction over the subject matter and the parties. Trial by jury has been waived.

2. The controversy between the parties involves infringement and validity of United States Letters Patent No. 2,570,637 entitled "METHOD OF AND APPARATUS FOR MENDING HOSIERY" issued October 9, 1951, upon application of Merle M. Brown, filed October 14, 1949.

3. Plaintiff, Marvel Specialty Company, Inc. of Paducah, Kentucky, is the owner of the patent in suit and has been since its issuance.

4. Defendant, Bell Hosiery Mills, Inc. of Spruce Pine, North Carolina, is accused of infringing the patent in suit by virtue of its use of certain hosiery mending devices purchased from Stanford Marley Distributing Company, Inc. of New York City who is defending this suit for Bell.

One of these machines is the so-called "MIRACLE-type", and the other is referred to as the "MEND-MORE". The Marley company has been selling a few of the MIRACLE devices for several years and the "MEND-MORE" since 1959 (R. 396, R. 400), but has never been sued by plaintiff (R. 23). This action was filed August 13, 1959.

5. The patent in suit contains ten claims, and the Bill of Complaint originally placed all of them in issue. Subsequently, however, plaintiff narrowed the issue of infringement to apparatus Claims 1, 2, 4 and 7, and method Claim 10 (PX 1). Thereafter, after commencement of trial, plaintiff still further narrowed the issue of infringement by acknowledging the invalidity of method Claim 10 and entering a disclaimer thereof (R. 14-15).

6. Defendant denies infringement of all claims and affirmatively urges invalidity of the patent in suit.

7. The patent in suit, as issued, relates to a method of and apparatus for repairing pulled threads in knitted fabric (PX 1, Col. 1, lines 1-6). A pulled thread occurs in knitted fabric, such as ladies' sheer nylon hosiery, when a loop in the fabric is greatly enlarged without breaking the thread. This enlargement is brought about through the withdrawal of thread from several adjacent loops on both sides of the pulled loop, thereby resulting in the reduction in size of such adjacent loops. The enlarged loop is displaced out of the plane of the fabric while the reduced loops define a visible line which detracts from the appearance of the fabric (PX 1, Col. 1, lines 22-44; Hutchison Patent No. 2,493,876 DX 10)

8. Prior to the Brown development, pulled threads were mended, for the most part, with a single needle device manipulated by the hand of an operator. The work engaging element of this single needle device usually took the form of a straight needle (DX 8), but curved needles had been used (R. 223). These needles were provided with suitable handles of wood or the like for ease of manipula-

tion. In using the hand needles, it was common practice to first place the fabric containing the defect under tension over a mending cup. This tensioning of the fabric resulted in the enlarged displaced loop partially re-entering the plane of the fabric and thus creating a rather large hole in the fabric, bounded by abnormally enlarged loops which were, in turn, bounded by the reduced loops. Thereafter, the operator would repeatedly stroke the distorted loops with the needle, working from the center of the hole outwardly along the defective course, striking several loops in a line one blow each as the needle was passed across the fabric. The impacts from the repeated stroking action of the needle moved the excess thread through or into the distorted loops, restoring them to normal size. Upon restoration of the loops on one side of the hole to normal size, or to greater than normal size (the latter being the case with several of the loops closest the hole) the operator then reversed the mending cup and began the same procedure with respect to the loops on the other side of the hole, with the ultimate result of all the loops being restored to normal size (R. 251-254, 271-273, 354-355; DX 17; DX 25; DX 29, DX 29A; DX 9, pages 27-28, 46; DX 11 (Dep. Ex. 13B)).

9. The apparatus disclosed in the patent for accomplishing this restoration of pulled threads is a mending head comprising a plurality of flexible curved needles extending radially in a circular series from a hub mounted on a rotatable shaft. The specification of the patent describes various means for imparting rotation to the shaft and the hub to actuate the circular series of flexible needles, including hand operation and use of an electric motor with suitable gearing (PX 1, Col. 7, lines 9-13; Col. 6, lines 15-34). Originally, in application Claim 7 (DX 9, page 16) claim was made to "means for rotating the hub", as part of the invention, but this claim was subsequently cancelled, thereby effectively disclaiming any proprietary rights in the provision of "means for rotating the hub", and plaintiff does

not contend that such means are claimed as part of the invention (R. 186).

10. There are two accused devices:

(a) One, the saw tooth or Miracle-type device (PX 4), comprises a metal disc having a plurality of radially extending rigid saw tooth-shaped projections. The disc is mounted on a hub which is, in turn, mounted for rotation on a shaft. As in the case of the multiple needle device, this shaft is connected through a flexible cable to an electric motor.

(b) The other, the single blade or Mend-More device (PX 3) comprises a single rigid elongated blade which is (1) eccentrically connected to a hub which is, in turn, mounted for rotation on a shaft, and (2) slidably connected to the housing which encloses such shaft. As in the case of the multiple needle and saw tooth devices, the shaft is connected through a flexible cable to an electric motor. The motive power is used to rotate only the hub of the device and as a result of the eccentric connection, the rotation of the hub causes the pointed end of the blade to move during operation in an elliptical or curvilinear path similar to the path of movement of the single needle prior art device as described in the prior art patent to Hutchison. (PX 3A; DX 29; DX 29A).

11. Brown preferred the disc with wire needles over the saw tooth device prior to filing his patent application (R. 239-240). The saw tooth device was perfected by a Mr. Kimbrell at Auburn Hoisery Mills sometime after the application for the Brown patents had been filed, and about 75% of plaintiff's current commercial devices are of this type (R. 69-70). Auburn Hoisery Mills continued to use the saw tooth device under a license of Brown's invention (R. 62).

12. The single blade device is the subject of an improvement patent, No. 2,819,598, to H. G. Mayer (PX 3A) and the accused Mend-More device is made under license from Mayer (R. 39).

13. In mending with plaintiff's Marvel device (PX 2) (which is covered by the description and apparatus claims of the Brown patent), an operator first tensions the fabric, as in the single needle operation, and then positions the rotating needles to cause each needle to repeatedly stroke the distorted loops, whereupon the repeated impacts of the needles move the excess thread through or into the distorted loops restoring them to normal size. Again, as in the single needle operation, the operator works from the center of the hole outwardly along the defective course striking *several* loops in a line one blow each as each needle is passed across the fabric (DX 15; DX 18; DX 23; R. 263-269, 276-280).

14. In mending with the saw tooth device (PX 4), an operator first tensions the fabric, as in the single needle operation, and then positions the rotating teeth to cause each tooth to repeatedly stroke the distorted loops, whereupon the repeated impacts of the teeth move the excess thread through or into the distorted loops restoring them to normal size. Again, as in the single needle operation, the operator works from the center of the hole outwardly along the defective course striking several loops in a line one blow each as each needle is passed across the fabric (PX 14; DX 23; DX 24; DX 25; R. 116).

15. In mending with the single blade device (PX 3), an operator first tensions the fabric, as in the single needle operation, and then so positions the tip of the moving blade that it repeatedly strokes the distorted loops, whereupon the repeated impacts of the single blade move the excess thread through or into the distorted loops restoring them to normal size. Still again, as in the single needle operation, the operator works from the center of the hole

outwardly along the defective course striking several loops in a line one blow each as the blade is passed across the fabric (DX 16; DX 19; DX 24; DX 29; DX 29A; R. 263-272, 276-280).

16. The single needle hand device (DX 8, 12), the multiple needle device (PX 2), the saw tooth device (PX 4) and the single blade device (PX 3) all perform the same function during mending of striking several loops in a line one blow each as the (or each) work engaging element is passed across the fabric. The action on the pulled thread and the results accomplished with such devices are indistinguishable (DX 15; DX 16; DX 17; DX 18; DX 19; DX 20; DX 23; DX 24; DX 25).

17. During prosecution of the Brown application in the Patent Office, it was represented that the Brown method was different from the method practiced with prior art single needle device in that with the Brown method each reduced loop is subjected to the rapid application of a plurality of light repeated blows before the next loop is acted upon (DX, pages 27, 46). In actuality, the Brown method (Claim 10) is incapable of performing a mending operation. (R. 241-242). Claim 10, the only method claim in the Brown patent, has been disclaimed.

18. Also, during prosecution of the Brown application, plaintiff argued that the Brown claims defined over the prior art rug beaters of Degen and Tigner in that the tips of the beater strips of such rug beaters were not disposed in a circle when such devices were in operation and that while Brown's radiating elements were somewhat flexible, it was also true that his elements were not deformable to a major extent as those of Degen and Tigner (DX 9, page 24). Each of these alleged differences is shown in German Patent No. 23,334 of 1883 (DX 10) which was not cited by the Patent Office. The German patent shows that it was old prior to the Brown development to

reposition threads in woven fabric with a circular series of work engaging elements (R. 287).

19. The Brown patent discloses the first combination of old elements which function in a different way to produce the same results produced in the prior art by hand operation (DX 26; R. 288-299), but with greatly increased efficiency, as for example, reducing the cost of mending from 70 cents to 25 cents per dozen while increasing the earnings of the menders (R. 55, 57) and making practical the mending of long pulls (R. 53-55, 99).

20. The saw tooth device produces the same result as that described in the patent, and it achieves such result in the same way in that in the work area the impacting elements move on a circular path and rapidly strike and slide over the threads of the fabric to knock the stiches back into proper position. (R. 128).

21. The claims in issue fail to cover the single blade device by the very same points of novelty that distinguish such claims over the single needle prior art device (R. 200).

22. While the Brown application was pending in the Patent Office, plaintiff issued leases of the Marvel machine under which the lessees agreed not to use any other power driven instrument similar to or designed and made for the same purpose and method. These leases were terminable by the lessees on notice. At least some of such agreements are still in force (R. 369-371; DX 30A, B, C). Upon issuance of the Brown patent, the provision regarding nonuse of other machines was deleted from lease agreements. All leases contained "favored nation" provisions. There is no evidence that plaintiff ever attempted to enforce the provision regarding other machines. Plaintiff ignored it in the case of Mr. Kimbrell of Auburn Hosiery who made his own machine and continued to use it under one of the leases under the patent application (R. 62).

23. Shortly after the commencement of trial, plaintiff disclaimed method Claim 10. The reason advanced for such

disclaimer was that it was discovered five days before trial that during mending with the Brown device all loops on one side of the enlarged hole were not in fact restored to normal before the loops on the other side were restored, as set forth in Claim 10 (R. 14-15). Plaintiff also concedes (Plaintiff's Reply Brief, page 4) that Claim 10 embodied the incorrect and mistaken description of how the machine worked in striking one loop several blows before proceeding to strike the next loop.

CONCLUSIONS

1. The apparatus claims of the Brown patent are valid in that they describe a new and useful apparatus for mending pulled threads which was not obvious to those skilled in the art at the time Brown made his invention.

2. The validity of the apparatus claims in the Brown patent is not affected by disclaimer of the single method claim since, aside from the description of the method, the patent contains adequate instructions on how to make and use the Brown apparatus.

3. Plaintiff has sustained its burden of proving infringement of the patent in suit with respect to the Miracle device. The Miracle device performs the same function, in the same way, to get the same result, as the apparatus claimed. Defendant's use of Miracle infringes Claims 1, 2, 4 and 7 of the Brown patent.

4. Plaintiff has not sustained its burden of proving infringement of the patent in suit with respect to the Mend-More device. The Mend-More device performs the same function, in a different way, to get the same result, as the apparatus claimed. Defendant's use of Mend-More device does not infringe the Brown patent.

5. Plaintiff is entitled to the injunction and accounting for which it prayed with respect to the Miracle device only.

To the extent, if at all, that the Opinion of the court filed herein contains conflicting or additional findings of fact

and conclusions of law, it is intended those stated in the Opinion shall supersede and control.

This 22nd day of April, 1963.

J. B. CRAVEN, JR., *Chief Judge*
United States District Court
for the Western District of
North Carolina

APPENDIX J

Excerpt from Testimony of Gus Smith

55 Q. Now what was the situation at Clausner with respect to the pulled thread mending department at a time immediately before the Clausner put the Marvel mending machine into use? A. In our plant we had a production of approximately ten thousand dozen a week, we had some forty-five girls snagging or removing pulled threads. Our average cost was in the neighborhood of seventy cents a dozen. After we put the machines in and the girls became skilled, we reduced our cost to around twenty-five cents a dozen.

Q. What do you mean by the cost was seventy and you reduced it to twenty-five? A. The piece rate, cost per dozen.

Q. This is what you paid the girls for mending a dozen.

A. That's right.

56 Q. Pulled threads? A. That's right.

Q. What was it before the machine was used? A. Seventy cents.

Q. What was it after the machine went into use? A. Twenty-five cents.

Q. Now what was the production of the girls by the hand method before the machine went into use? A. Approximately fifteen dozen in eight hours.

Q. Now, what was the production of the average mender after the machine was put into use? A. Depending on the appitude of the girl, it would be between forty to fifty, up to sixty dozen in eight hours.

Q. Roughly triple? A. Triple.

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